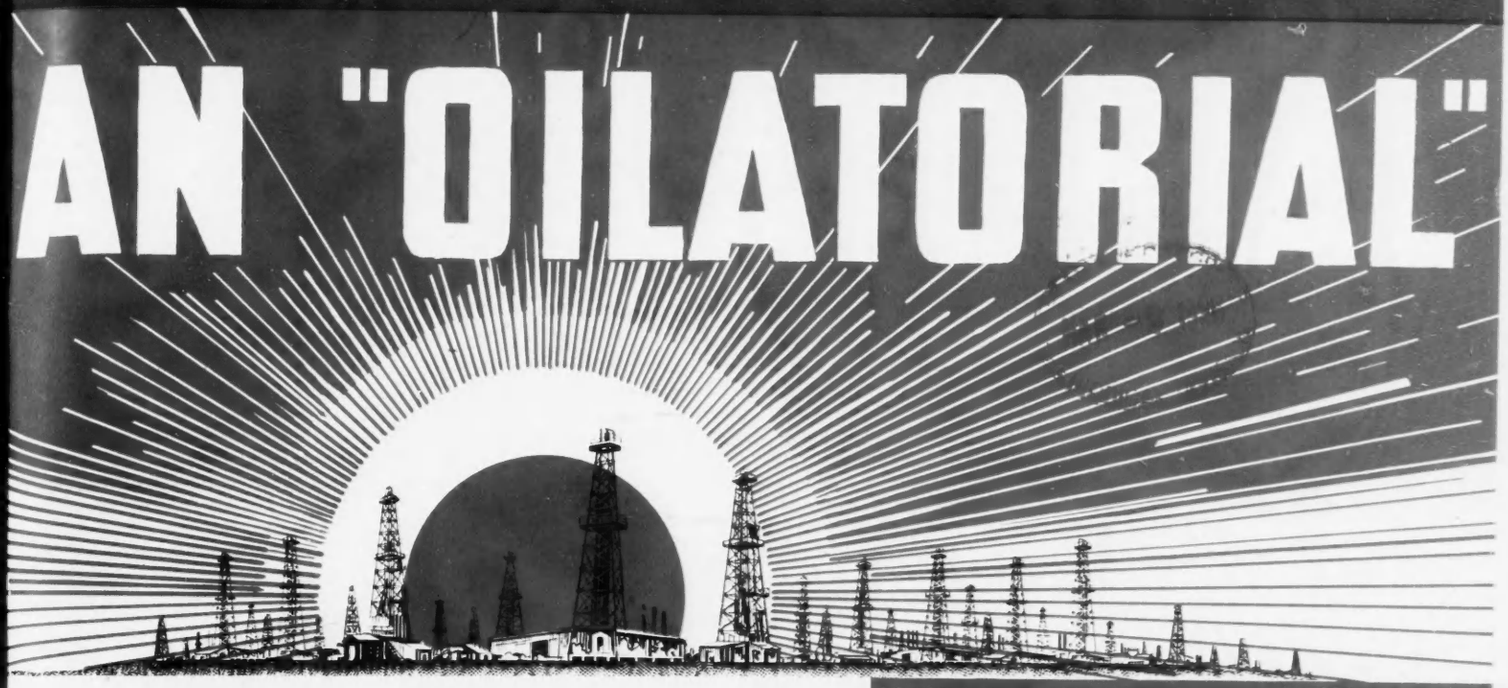
The OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED

AN "OILATORIAL"



"Old-Timers" remember the First Rock Bit—it was a Hughes Bit. Every following year saw improvements in design and manufacture and a corresponding advance in drilling activities.

Any history of the Oil Industry, especially the Rotary method of drilling, is incomplete without including the development of Hughes Rock Bits.

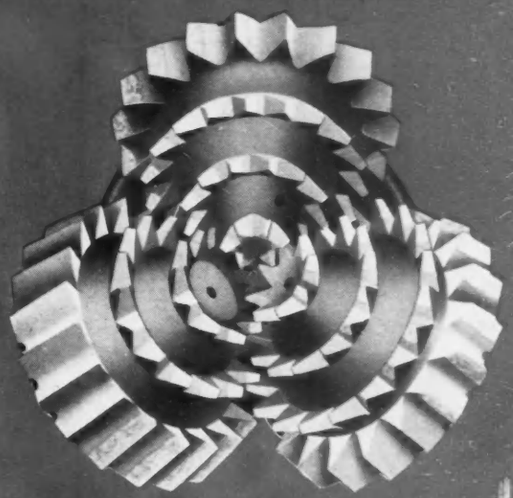
Hughes 3-Cone Rock Bits are the result of many years of constant experiment—in both Laboratory and Field. They are naturally leaders today —even more so than nearly a "quarter of a century ago."

Sold by Supply Stores Everywhere

HUGHES ROCK BITS

have always been

A RECOGNIZED FACTOR IN THE DEVELOPMENT OF THE OIL INDUSTRY



HUGHES TOOL COMPANY

BRANCH SERVICE PLANTS:
LOS ANGELES, CALIF.
OKLAHOMA CITY, OKLA.
MIDLAND, TEXAS

HOUSTON, TEXAS

CABLE ADDRESS "HUGHESTOOL"

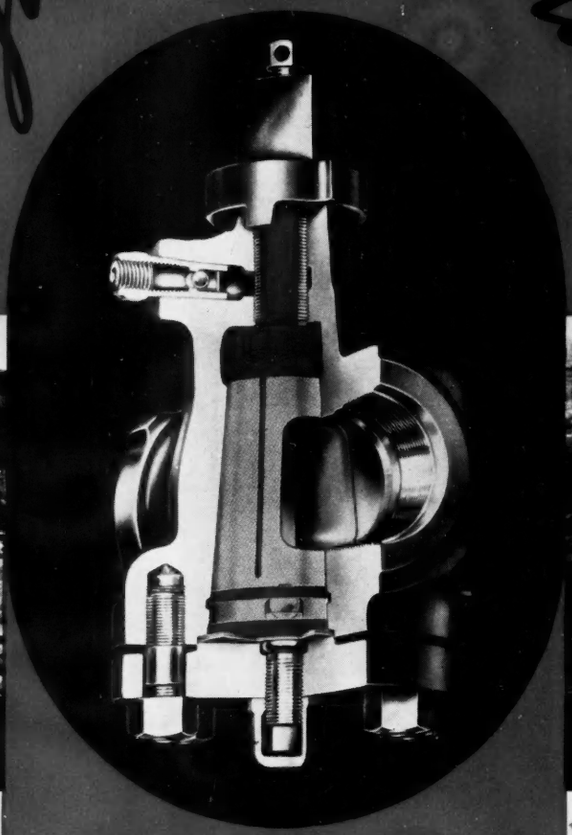
FIELD WAREHOUSES: ADA, OKLA. — SEMINOLE, OKLA. —PAMPA, TEX. HUTCHINSON, KANSAS—EUNICE, NEW MEXICO—RODESSA, LOUISIANA

EXPORT OFFICE:
30 ROCKEFELLER PLAZA
NEW YORK CITY, U. S. A.

VOLUME 79 NOVEMBER 11, 1935 NUMBER 9

NORDSTROM HYPRESEAL

has "just what it takes"

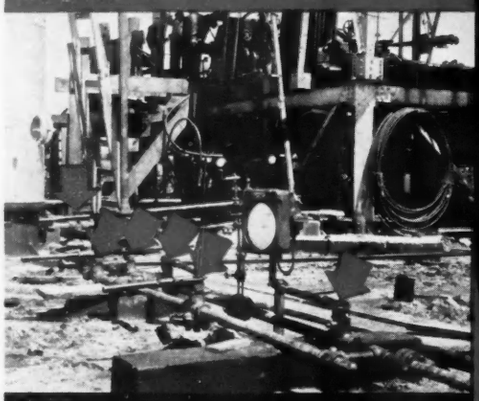


...to meet new-day drilling demands

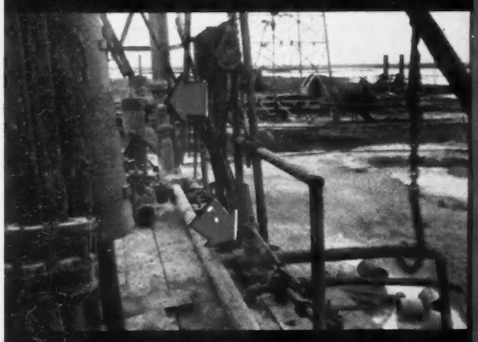
Of signal importance to the Drilling Industry, Nordstrom Hypreseal Valves mark a distinct advance in the control of extremely high pressures, particularly for high pulsating and intermittent pressure. For steam lines from boilers to mud pumps and on all mud lines the Hypreseal is remarkably easy to turn on or off at full differential pressure. The Hypreseal embodies patented "Sealdport" lubrication. Test pressures up to 6000 lbs.

Our Bulletin No. V107 completely describes the Hypreseal.

MERCO NORDSTROM VALVE CO.
a Subsidiary of
PITTSBURGH EQUITABLE METER CO.
Main Offices: Pittsburgh, Penna. Branch Offices: New York City, Buffalo, Philadelphia, Columbia, Memphis, Atlanta, Chicago, Kansas City, Tulsa, Houston, Los Angeles and Oakland.



Nordstrom Hypreseal Valves on orifice meter setting and by-pass. Note the Emco Orifice Meter. An excellent combination for line control and accurate recording.

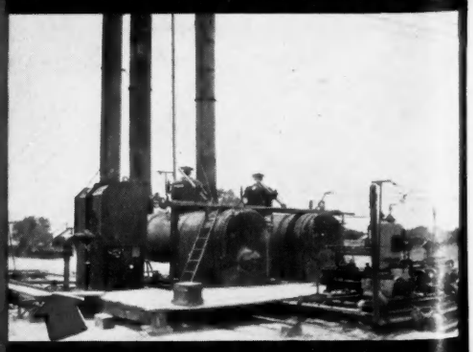


Nordstrom Hypreseal Valves on mud line to stand pipe at drilling well at Pierce Junction, Texas. Nordstrom Nordco steel valves are shown on water lines.

Nordstrom Hypreseal Valves and Nordstrom Nordco steel valves on drilling lines of one of the World's deepest wells in Upton County, Texas.

Drilling rig in Andrews County, Texas, showing 10-in. geared Nordstrom Valve on suction line and 3-in. Nordstrom Hypreseal Valves (2000 w.p.) on mud lines.

One of the most modern drilling rigs at Pierce Junction, Texas, showing mud line with Hypreseal Valve and 2-in. Nordstroms on steam and water lines.



An efficient boiler hook-up completely equipped with Nordstrom Valves. Steam line from Superheater to pumps (350° Fahr.) controlled by Hypreseal Valve.

Blessed Event

BAKER OIL TOOLS, INC.
announces the arrival of the
BAKER Cement Retainer
Model F

CAN BE USED AS CASING BRIDGE PLUG

When used as a Casing Bridge Plug, this tool is set at any point in the casing or liner and a heavy Bakelite bridging ball is dropped to close the upper opening in the body. The lower opening is closed automatically, and any movement of plug or fluid either up or down the well is positively prevented.

CIRCULATION JAR IMPORTANT FEATURE

The Circulation Jar is run above the Cement Retainer or Casing Bridge Plug in all applications. It insures relief from all strain when unscrewing the trip assembly from the body of the Retainer, and provides a safety feature both through its jarring action and as a circulation medium.

DRILLABLE

After unscrewing the tubing, Jar and Trip Assembly, the Retainer Body remains set and packed off in the casing. All metal parts of the Retainer Body which are left in the hole are made of ribbed cast iron; the small trip ball is bronze; and the valve ball is made of Bakelite—all these being materials which may be drilled out.

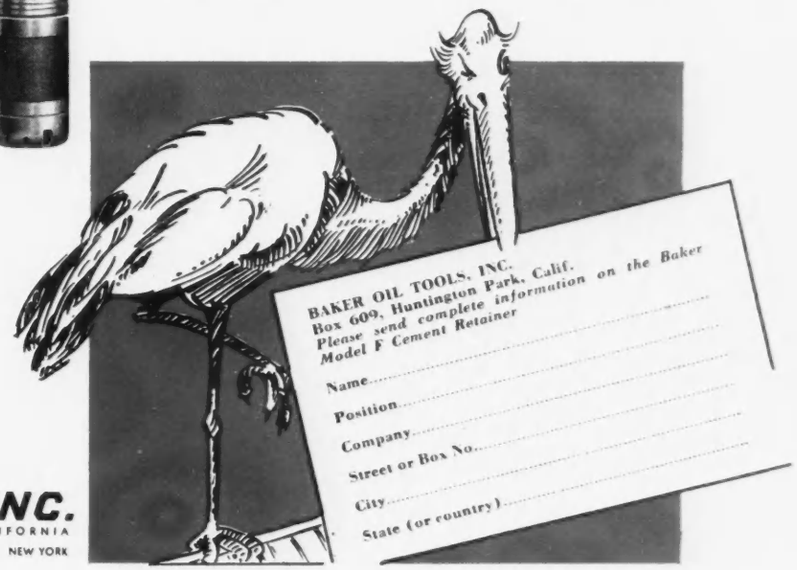
MODERN ADVANTAGES

The Baker Model F Cement Retainer is different in construction and operation from previous designs, and provides new efficiency in (1) Simple, positive operation; (2) Increased facility for placing cement; (3) Eliminating many sub-surface hazards.

Here at last is a safe, positive acting, easily operated tool for re-cementing, for plugging back to upper zones, for plugging off bottom water, for series cementing, and for many other types of well repair work.

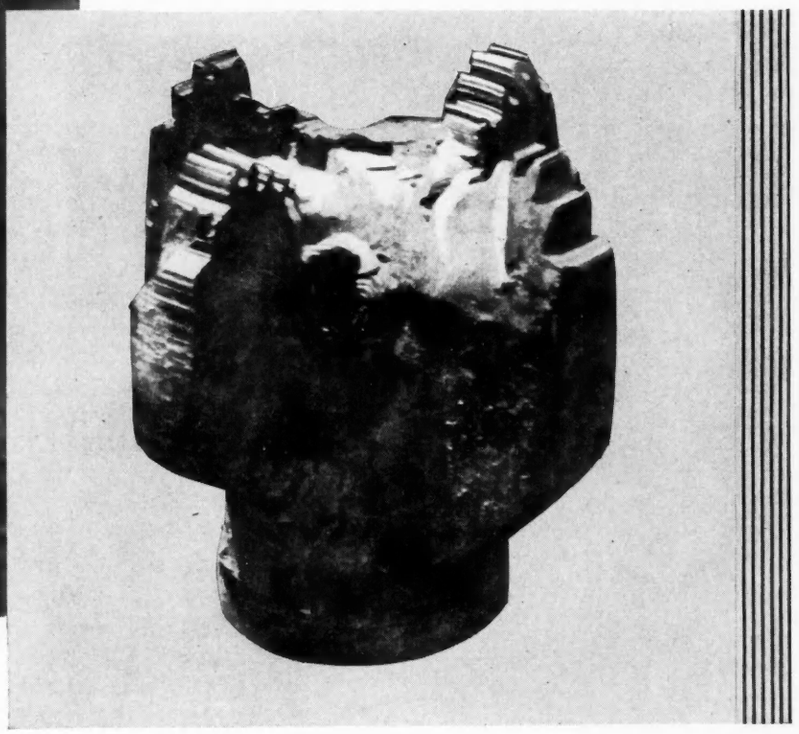
The Baker Model F Cement Retainer is set hydraulically in conjunction with the Circulation Jar and locked securely in place at any predetermined point in the casing. When so set it makes a perfect packer, forming a tight seal between the tubing and the casing so that cement may be pumped through the tubing and behind the casing, or into formations, without danger of any cement getting between the tubing and the casing. A back-pressure valve in the bottom of the Cement Retainer prevents any cement which has passed through the retainer body from coming back into the tubing. At no time is any bursting pressure or elongation stress imposed upon the casing.

The results of field tests have been entirely satisfactory and are described and illustrated in a treatise (containing actual field reports) which will be sent upon request. No library on cementing practice is complete without it. Use the coupon below—the information may prove to be a "Blessed Event" in your operations.



BAKER OIL TOOLS, INC.
POST OFFICE BOX 609 HUNTINGTON PARK, CALIFORNIA
COALINGA • TAFT • HOUSTON • OKLAHOMA CITY • TULSA • NEW YORK

Haystellite MAKES 1160 FEET *in Kettleman Hills*



This bit is hard-set with No. 2 Haystellite Inserts and hard-faced with 6-on-10 Tube Haystellite.

• This 14¼-in. Haystellited bit—the first one used under the surface pipe—made 1160 ft. of hole at Kettleman Hills North Dome.

Notice the excellent fingered condition of the cutting edges. In some places the fingers are approximately 1¼-in. long, proving once again the extreme hardness, toughness and long wearing qualities of Haystellite.

Dependable performance can always be obtained by the proper application of Haystellite to your drilling tools. A 36-page booklet, "Haynes Stellite Products in the Oil Fields," describes the correct procedures for obtaining these uniform, dependable results. Write today for your copy of this valuable booklet.

PRODUCT OF A UNIT OF UCC UNION CARBIDE AND CARBON CORPORATION

HAYSTELLITE TRADE MARK

The cast Tungsten Carbide diamond substitute

HAYNES STELLITE COMPANY

Unit of Union Carbide and Carbon Corporation

UCC

Chicago - Cleveland - Detroit - Houston - Los Angeles - New York - San Francisco - Tulsa

General Office and Works—Kokomo, Indiana

Foreign Sales Department—New York City

Haynes Stellite Welding Rods and information on other Haynes Stellite Products also are available through the 42 apparatus shipping points of The Linde Air Products Company

NOV 12 1935

THE OIL WEEKLY

ENGINEERING « NEWS » STATISTICS

©C1B 291233

EDITORIAL STAFF

WARREN L. BAKER
Editor

J. KENT RIDLEY
Managing Editor

ASSOCIATE EDITORS

JACK LOGAN — BRAD MILLS
WM. V. GROSS

DISTRICT EDITORS

B. F. LINZ.....Washington
FLOYD SWINDELL.....Tulsa
H. H. KING.....Fort Worth
W. E. GREEN.....Los Angeles
EARL S. POST.....San Antonio
R. W. BYRAM.....Austin
CHAS. LEYENDECKER.....Houston

PUBLISHED BY
THE GULF PUBLISHING COMPANY
HOUSTON, TEXAS

Copyright, 1935

R. L. DUDLEY, *President*
A. L. BURNS, *General Manager*
S. W. ROBINSON, *Editorial Director*

Staff correspondents at all important points

ADVERTISING STAFF

DICK SWINSKY.....New York
W. W. PIGUE.....Pittsburgh
T. W. NELSON.....Chicago
J. F. CARTER, JR.....Tulsa
W. E. GREEN.....Los Angeles
CHAS. WYATT.....Houston
WM. ATCHESON.....Houston

W. J. HUDSPETH
Circulation Manager

Contents « November 11, 1935

Volume 79, Number 9

THIS WEEK 7
THE CHANGING PANORAMA 13
GENERAL NEWS:
Oil Control Urged in Washington 8
By BERTRAM F. LINZ
I. P. A. A. Meeting—Platform Drafted and New President Elected 9
A. P. I. Meeting Opens—Problems and Progress of Industry Program Features 19
Progress in October—Further Improvement in Statistical Situation 22
By JACK LOGAN
Men in the Industry's News 16
Squeaks from the Bull Wheel 112
ENGINEERING AND TECHNICAL:
Water-Flood Practices in Pennsylvania Vary But Follow Same Basic Principles 31
By JOHN C. ALBRIGHT
Absolute Gravity Survey in Gulf Coast Would Be of Value 38
By WARREN L. BAKER
Basic Survey Data Essential to Industry 40
By WILLIAM BOWIE
Envisaged Survey Would Be of Great Commercial Value 42
By DONALD C. BARTON
Economic Possibilities of Mapping Gulf Coast Are Many 44
By E. H. SELLARDS
Swampy Area Deep Drilling at Bayou St. Dennis Overcomes Problems 48
By BRAD MILLS
Line Crossing Dangers Due to Quicksand Overcome by Anchored Pipe Saddles 51
By FRANK B. TAYLOR
Radio Communication System Advantageous in Inaccessible Districts 57
By BRAD MILLS
U. S. S. R. Prospecting by Electrical Methods Yield Interesting Results, Part 2 60
Employees Welfare Meets With Such Response as to Be Profitable Work 76
By BRAD MILLS
MARKETS AND STATISTICS 67
WORLD DEVELOPMENTS 73
NEW PRODUCTS AND EQUIPMENT NEWS 109

SPECIALIZED OIL JOURNALS
Published by
THE GULF PUBLISHING COMPANY

BRANCH OFFICES

NEW YORK.....250 Park Ave.
PITTSBURGH.....Standard Life Bldg.
CHICAGO.....332 S. Michigan Ave.
LOS ANGELES.....Haas Bldg.
TULSA.....Hunt Bldg.
FORT WORTH.....W. T. Waggoner Bldg.
WASHINGTON.....Albee Bldg.

Member Audit Bureau of Circulations.

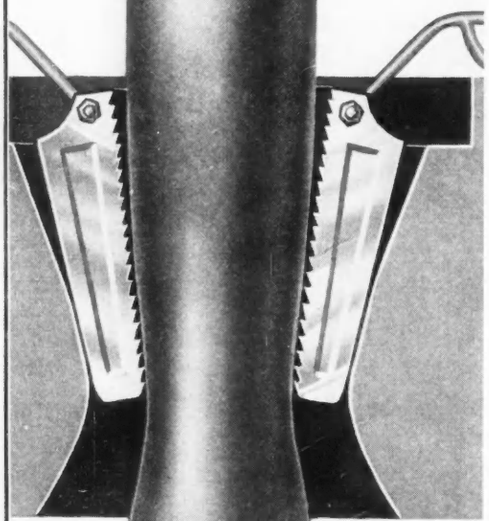
Published every Monday. Single Copy 15 cents. Subscription price: domestic and foreign, $2.00 a year. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil industry or the manufacturing and distribution of oil field supplies.
Advertising rates on application.

POSITIVE ALIGNMENT

Eliminates BOTTLENECKING

BAASH-ROSS *Self-Aligning* SLIPS

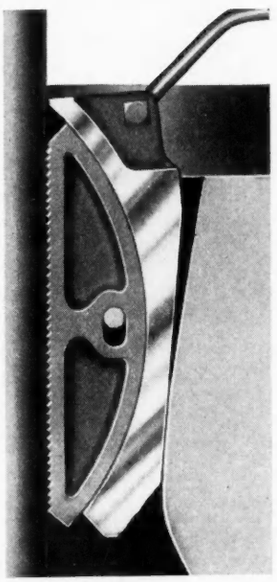
Automatically Compensate for Wear Of The Master Bushing



They've taken the oil fields by storm, these new Baash-Ross Self-Aligning Drill Pipe Slips. Field men immediately see that they are the long-sought answer to bottlenecking.

Everyone knows that old-type slips rarely grip the pipe for more than a quarter or a third of the length of their liners, as shown in the illustration at left, and that the great pressure repeatedly exerted over this small area quickly bottlenecks the pipe.

The cross section at right shows the principle on which these revolutionary slips operate. The backs of the liners are formed with a radius which allows them to rock in the body. Note that, even though the taper of the worn master bushing does not coincide with that of the back of the slip, the ENTIRE LENGTH of the face of the liner is gripping the drill pipe. Thus, the pressure is transmitted from a large area of the drill pipe through the slip to the master bushing. No chance for bottlenecking the drill pipe here.



The wickers on the liners are cut to afford maximum gripping ability and ready release. Slip bodies are so proportioned that they cannot fall through the master bushing into the hole.

The positive alignment of Baash-Ross Self-Aligning Slips that preserves your drill pipe, is an important safeguard of your drilling operations. See them today.

BAASH-ROSS TOOL COMPANY

Telephone 3-4406	Telephone Fairfax 9363	General Offices	Export Office
1559 S. E. 29th St.	5300 Clinton Drive	5512 Boyle Ave.	30 Church St.
OKLAHOMA CITY	HOUSTON	LOS ANGELES	NEW YORK, N.Y., U.S.A.

Gulf Coast Distributors NORVELL-WILDER SUPPLY CO.

BAASH-ROSS B-R TOOL COMPANY

THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING NEWS STATISTICS

WARREN L. BAKER, Editor

. . . this Week

THE already excellent statistical position of the oil industry was further improved during October. Crude production for the nation was up about 40,000 barrels daily over the preceding month, but still stocks of both crude and gasoline were drawn upon to meet consumption. Crude price advances late in the month in California, despite the state's continued high production over estimated demand, confirm the evidence of the industry's favorable statistical position. Of interest is that completion for the first 10 months of 1935 were 19 percent higher than in corresponding period of previous year, while production was up nine percent for the same period. **Page 22.**

THE industry's largest convention opened this morning in Los Angeles, with the Sixteenth Annual Meeting of the American Petroleum Institute getting underway. A review of the progress made by the American industry during its 76 years of history will feature the program. From an economic standpoint, four speakers will discuss present day conditions and problems confronting the industry. **Page 19.**

FROM a technical standpoint, members of the Division of Production of the American Petroleum Institute will be able to obtain a cross-section of practically every phase of drilling and production practice at the Institute's Sixteenth Annual Meeting. In addition to the report of activities by various standing committees, specially prepared papers will discuss topics of metallurgy and corrosion of equipment, oil recovery, and recent developments in drilling and production practice.

IT has been proposed that an absolute gravity survey be made of all Gulf Coast states. Such a proposal is of interest to the oil industry because of valuable basic information obtainable from a survey of this type that could be used profitably by its companies. Mapping of an accuracy not now possible would be one advantage, while from a geological standpoint there are a number of features that would be of assistance to geologists and geophysics. **Page 38.**

WHILE water-flooding practices may vary, there are certain basic principles followed by all operators. The methods of arriving at the requirements necessary for a successful and profitable flood vary somewhat but substantially are alike. Coring is being done to a larger extent for the purpose of providing helpful data. Redrilling of old leases before flooding now is more general, as producers generally have concluded that the five-spot method is best. Completions methods also have become pretty standardized practices, as have the later methods of installing equipment and operating of the water flood. **Page 31.**

A RADIO - TELEPHONE system is being used by an oil company for communication purposes in the marshy areas of southeast Louisiana. All equipment is erected on floating barges, and keeps the district headquarters in close touch with all field operation. **Page 57.**

THE Independent Petroleum Association of America in its annual meeting at Dallas last week adopted a five-point program. Included were the following highlights: (1) Limitation of imports; (2) Orderly storage withdrawal; (3) Equitable state control of production; (4) Orderly development of new fields; and (5) Voluntary agreements within the industry. Charles F. Roeser of Fort Worth was elected president to succeed Wirt Franklin, who has been president since the association was organized six years ago. **Page 9.**

PREDICTIONS that the Rodessa field, North Louisiana, would have an important influence on activity in that region are proving true. Already a number of wildcat tests are seeking the same producing horizon.

QUICKSAND in creek and river beds cause difficulty in keeping pipe line in place due to the shifting of channels, caving, etc. To overcome this trouble a pipe line company has developed a unique practice in the Texas Panhandle. A spudding machine is used to drill holes, into which is lowered pipe that is filled with cement. The line, running between a number of these stanchions, is then held in place. **Page 51.**

THE Bayou St. Dennis field of the Louisiana Gulf Coast ranks as one of the deepest commercial fields in the world, and is the deepest salt-dome pool in the world. Drilling conditions are ideal, permitting the carrying of long open holes. The only difficulty has been that of rig foundations, caused by the swampy surface terrain. Wells now are being drilled by using large barges as foundations. These are floated to the locations through canals and sunk for foundations. **Page 48.**

The Oil Man's Calendar

NOVEMBER
11-14 *American Petroleum Institute, Annual Meeting, Biltmore Hotel, Los Angeles. California Natural Gasoline Association, Los Angeles.*

DECEMBER
10 *Mid-Continent Oil & Gas Association, Tulsa, Oklahoma, (Date tentative).*

MARCH, 1936
19-21 *American Association of Petroleum Geologists, Tulsa, Oklahoma.*

APRIL
11-13 *Petroleum Industry Electrical Association, Tulsa, Oklahoma.*
16-17 *National Petroleum Association, Cleveland, Ohio.*
20-25 *Oil Equipment & Engineering Exposition, Houston, Texas.*

MAY
13-15 *Natural Gasoline Association of America, Tulsa, Oklahoma.*
16-23 *International Petroleum Exposition and Congress, Tulsa, Oklahoma.*

Oil Control Urged

CONSUMERS' DIVISION OF NRA ASKS PROTECTION FOR PUBLIC

By BERTRAM F. LINZ, Staff Writer

WASHINGTON, D. C.

IMPOSITION upon the oil industry of the same type of federal control as is exercised over the bituminous coal industry under the Guffey bill enacted at the last session of Congress was last week given the full support of the consumers' division of the National Recovery Administration.

A new drive for federal regulation, based upon the need for recognition of the consumer's interest in the prices he must pay for oil products, rather than upon the historic theory of conservation, was viewed in Washington as having been initiated with publication November 6 of a lengthy report by the division, comparing the consumer-protecting provisions of the Guffey act with the utter lack of consumer safeguards under the interstate compact law.

"Both coal and petroleum are vitally important among the elements that go to the making of the American standard of living," it was asserted, but "in that phase most vital to the consumer, recognition of his interest and provision for specific restraints on the abuse of industrial power necessary under control to replace and amplify those general restraints imposed in the free market by the competition of seller and seller for the consumer's dollar, the statutes were very different."

The consumer is remembered in the coal act, not merely in giving him representation and recourse but in the framing of the provisions for setting prices, it is pointed out. In neither the interstate compact measure nor the state laws controlling oil production is any provision made for protection of the consumer against exorbitant prices.

"Allocation of production has been practiced over a period of years in petroleum and has proven very costly to the industry," it was commented in the report of the consumers' division. "Production is allocated to fields by the state regulatory commission, is then allocated to wells within the fields roughly on the basis of capacity to produce and without relation to costs.

"The temptation, and in many cases the practice, has been to develop more fields and to drill unnecessary wells in order to be allocated a larger share of production. Overcapacity and its expense is tremendous, while overdrilling is costing the industry tens of millions a year. The extent of it all may be gathered from the fact that one field can produce all it is allowed by the state commission by turning each well loose for about 12 minutes in every 24 hours. Under such circumstances, obviously the business can stay solvent only if the price is held above cost and far above the cost of efficient production. The consumer must pay the bill."

This overcapacity, if production were not restricted, would by the natural laws of competition result in such low prices as would be ruinous to producers, it was pointed out. "Instances are on record," the report continued, "where production has escaped restriction and the price of petroleum tumbled to a tenth of its usual levels. Groups of producers in such instances have persuaded governors to use martial law to halt production altogether until restriction could be imposed.

"But it is to be remembered," the report charged, "that restriction was imposed in the name of conservation of natural resources in these instances.

"Theoretically the low price had nothing to do with it; 'the great waste' alone occupied the attention of state governments. And today the clamor which arises from oil-producing sections when the price of petroleum falls is for further 'prevention of waste.'

"The theory of 'waste' has reached the point where it is wasteful to run oil from the ground into tanks for long-time storage because of evaporation of the oil; hence a restriction of production to the 'market demand' for oil, the amounts run to refineries.

"Here again the question of price which the consumer must pay is carefully ignored. The market demand is the amount which will be used by refineries at the present price which covers high costs, not the amounts which would find a market at various lower prices. The existence of a demand schedule is tacitly forgotten; demand is assumed to be a single figure.

"But whatever the irrelevance of costs in the deliberations of the regulatory commissions, price is definitely buttressed up by the restriction programs of the oil states," it was alleged. "Federal courts have in some cases gone so far as to speak of the 'conservation' theories as smoke screens for price-fixing devices. And at any rate, whether the bolstered price is the intention of the production restriction programs or merely incidental to it, the price is held up, to levels above costs and considerably above efficient costs. And the consumer pays the bill without even channels of protests. Privately he is taxed without representation—a situation against which Americans at certain periods of our history have been known to protest."

The oil regulation statute passed at the last session of Congress is viewed by the consumers' division as merely preserving this system of allocation without reference to costs and restriction of production which is subsidizing inefficient operation at the expense of the consumer. There is in it, it is pointed out, no provision at all to encourage low cost production in any way; there are not even labor provisions.

"And since the device used to protect the industry from insolvency is theoretically one of conservation, without overt reference to price," the report added, "the consumer is provided no representative, his interest is remembered only insofar as the oil reserves are 'being conserved' for his future use—without reference to future price—and his very protests are, as far as the formal hearings go, irrelevant. The device for keeping price up being what it is, the consumer is licked from the start, even if he had a representative.

"The administrative agency—a coordinating group to work with the various oil state regulatory bodies—itself does not give fair representation. Only oil-producing states are represented, and consumers in the thirty-odd states which buy oil, having no production of their own, would be without voice even if consumers in the oil states could make their importance felt by their state commissions.

"The consumer is confronted with industrial control that, by its oblique approach to price, leaves him out in the cold while its direction is decided in the inner sanctums," the report concluded, "that leaves him without representation, and that does not even encourage him with prospects of lower costs—the benefits of which, in any event, might or might not be passed on to him."

NEW NRA CONSIDERED

Conferences will be held on proposal in December

WASHINGTON, D. C.

MEMBERS of the oil industry who have accepted invitations to participate in the round-table discussion of new NRA legislation proposed by George L. Berry, President Roosevelt's co-ordinator for industrial cooperation, were last week advised that conferences would begin December 9.

As Berry outlined his plans for the December conference, called originally for the purpose of encouraging adoption of voluntary codes, but shifted to consideration of new legislation when it became evident that the voluntary code plan was doomed to failure because of the opposition of labor interests to the inclusion in the agreements of hour and wage provisions, it became known that his action had precipitated one of the sharpest controversies which has yet arisen among members of the Roosevelt administration.

Seventy-three percent of the 5000 persons invited to the conferences have accepted, Berry said. However, the percentage of these who will come to Washington solely for the purpose of combating any move to revive Federal control of industry was not made public, although it is known that the representatives of several important industries will participate only for that purpose. It is also known that several of the most important industries, without whose support new legislation would be difficult, have refused definitely to have anything to do with the conferences.

Administration officials opposed to the calling of a "mass meeting" reminiscent of the big gatherings engineered by General Hugh S. Johnson while head of the NRA during the code-writing period, predicted freely that the conference next

month would effectually vitiate any chance the administration may now have of securing popular approval for new NRA legislation.

In the announced intention of some industries to combat new legislation, these officials saw the conference as a huge protest meeting, while the opposition already expressed by labor to the inclusion of labor provisions in the voluntary codes was viewed as being extended to any legislation which the president might ask unless it went much further in behalf of the workers than the new Labor Relations act.

TWO QUESTIONS

To foreground for Texas proration hearing

AUSTIN.

THE monthly statewide proration hearing has been set by the Texas Railroad Commission for November 19 at Austin.

Two important questions will come before the commission again, involving the new potential map for the East Texas field, which is based on recent key-well tests, and revision of the gas control order in the Texas Panhandle.

Advance reports indicate that the total allowable for the field will not be altered appreciably by the new tests. Two factors contribute to this condition. Bottom-hole pressure of the field has remained practically static for the past year and a half since tests were made of many wells. The second factor involves a change in the method of locating contours. Originally east edge well allowances were limited by the minimum 20-barrel contour line; on the new map a line has been projected beyond production, thus establishing zero as the base from which all calculations are made.

The Panhandle gas proration situation has been brought to the front through the action of a three-judge federal court meeting in Fort Worth on October 28. At that time the court was to hear cases involving every phase of gas waste control as provided in the new law known as House Bill 266. The court, however, suggested that the commission pursue another course. From the bench the suggestion was made that a new hearing be held and that new orders be issued based on facts developed at this hearing.

The first group will constitute those operators who have no market for their gas. This would of course include stripping plant operators who have been blowing residue gas into the air.

The second group will be those that have a market for a part of their gas, while the third group will be the group which has a market for gas which can be supplied from its own production exclusively.

To advance the cases Attorney General McCraw has dismissed several suits filed in Travis County District Courts. These suits were brought to allow validity of the law to be determined by the state courts before the federal court is called upon to pass on the question.

I.P.A.A. Meeting

FUTURE PLATFORM DRAFTED AND NEW PRESIDENT ELECTED

DALLAS.

THE program outlining the policies of the association placed it on record as being opposed to federal control of the petroleum industry, with the reservation that "the assistance of the Federal Government be properly invoked in order to protect the various oil producing states in those interstate situations where the laws of single states have no authority."

Other features of the adopted program included:

1. Federal legislation definitely limiting importation of foreign petroleum and its products, preferably to a fixed proportion of the national consumptive demand;

2. Orderly storage withdrawals in order to prevent these from flooding the market or wrecking the price structure;

3. Some practical method whereby domestic production shall be held within the limits of national consumptive demand with each state, so far as this may be possible, assured of its equitable and proper share of the total national production;

4. Provision for the planned, orderly development of new pools by agreement of operators;

5. Provision for voluntary agreements within the industry, subject to approval by some federal agency.

Continuation of the United States Bureau of Mines' monthly recommendations suggesting the amount of production for each of the oil producing states was endorsed, along with a plea that adequate funds be appropriated by Congress to carry on the work.

Limitation of petroleum imports not to exceed 4.5 percent of the domestic consumptive demand as determined by the Bureau of Mines was one of several measures adopted to protect producers in the United States from the competition offered by importations from foreign countries. Until an adequate tariff on imports is adopted the independent group ask that Congress increase the excise tax on crude oil, gas and fuel oil from one-half to one-cent, and adding a new excise tax of $2 per ton on imported asphalt. Charges were made that importers have failed to adhere to agreements made in March, 1933, to restrict importations to 105,000 barrels daily, and that the excess prevents proper balancing of the domestic supply of petroleum products with consumptive demand.

An investigation by Congress of the alleged discrimination against domestic manufacturers of asphalt in favor of importations or asphalt derived from imported foreign crude which have resulted from rulings and orders by the procurement division of the Treasury Department and the bureau of public roads in the Department of Argiculture, will be again sought by the association. Protests registered in 1933 and 1934 were said to have gone unheeded.

A reduction of taxes on petroleum and its products by various states and elimination of federal sales taxes on gasoline and lubricating oil is asked by the association.

Excessive withdrawals of oil from storage, especially during the winter months, were pronounced a threat to any co-operative efforts within the industry to balance supply and demand and maintain prices.

Increased Membership

C. E. Buchner, executive manager, announced that membership in the association had increased two-fold within the past two years, with every oil producing state represented.

Due to the widespread activities of the organization, involving in particular representation of the independents' cause on legislative matters at Washington, the treasury developed a deficit the past year, according to annual report submitted by N. T. Gilbert, Turman Oil Company, treasurer.

Annual dues for oil producers will involve a minimum basis of 50 cents per barrel for average daily production maintained during the month of October. Under this arrangement a producer having 1000 barrels daily production would contribute a minimum of $500 during the calendar year. Heretofore, the minimum levy has been $10 per year for each member, with special contributions depended upon to balance the budget.

Conducting an open forum on "Known Oil Reserves", Marvin Lee, secretary and technical advisor to the Kansas State Corporation Commission, expressed belief that the cream of the shallow production has been withdrawn. He stated that a greater price return must be available to producers in the future in order to extract the large quantities of oil remaining in the shallow areas and to produce from the deep horizons recently uncovered. Approximately 22 percent of all completions prove to be dry holes, according to Lee, and the production branch of the industry has expended more than its income in keeping abreast of consumption.

Dr. W. E. Wrather, Dallas consulting geologist, stated that he would not haggle with anyone placing an estimate of from 10,000,000,000 to 14,000,000,000 barrels of crude reserves as being in sight. Reserves are governed by price factor, he added, and estimates should be based on producing areas in sight, as it is foolhardy to make barrelage estimates on unexplored areas.

Discussing the crude reserve situation in the Eastern States that produce the so-called Pennsylvania grade oil, Dr.

George E. Ashley, State geologist for Pennsylvania, stated that the district probably has in excess of 1,300,000,000 barrels of recoverable oil under present methods. Very little oil is found in commercial quantities below 3000 feet, but gas production is obtainable down to the 7500-foot level, he added.

Reviewing the problems of the stripper well owners, P. Barney Flynn, Wichita Falls, pointed out that the stripper wells now account for slightly more than 50 percent of the current domestic production. They also represent more than one-half of the known oil reserves of the nation. He stated that there is no dividing line between the value of oil produced from flush producers and pumpers, and that an equitable price should be based upon the cost of stripper well production, plus a fair and reasonable profit.

John E. Shatford, El Dorado, Arkansas, president of the Louisiana-Arkansas Refiners' Association, spoke on "The Small Man's Hour of Decision". In the absence of Dr. Virgil R. D. Kirkham, Saginaw, vice-president of the Michigan Oil & Gas Association, who was unavoidably detained from attending the convention and delivering a scheduled address, H. D. Atha, Mount Pleasant, expressed gratification of the Michigan operators for the efforts waged by the association toward attaining stabilized prices for the oil industry the past two years. He forecast that Michigan would steadily rise in importance as an oil and gas producing state, having 50,000 barrels daily production at present under proration restrictions.

H. J. Struth, petroleum economist, Houston, reviewed the statistical position of the industry, picturing a marked improvement in its economic condition. Excess production in California and sharp rises lately in total volume of foreign petroleum importations are to be seriously considered as potential menaces to the stability of the market, he added.

Charles F. Roeser

» Elected President

The newly elected president of the Independent Petroleum Association of America is Charles F. Roeser of Roeser and Pendleton, Inc., of Fort Worth. Mr. Roeser has had a long and active oil industry career. His father, William Roeser, Jr., was an oil operator, and when young Roeser reached sufficient age he worked as roustabout during school vacations in the Ohio fields. In 1906 he and his brother, W. H. Roeser, were in the Oklahoma fields, where they operated a number of years as drilling contractors and independent operators. After serving in the World War, he returned to Oklahoma and the oil game. During the Ranger boom of 1920, he and T. T. Pendleton formed the firm now known as Roeser and Pendleton, Inc. One of their most famous properties was the Cook Ranch in Shackelford County, Texas, which produced millions of high gravity crude from a shallow depth.

Early during the boom days of the East Texas field, Mr. Roeser became converted to the cause of curtailment, and with the help of others, organized the Texas Oil and Gas Conservation Association. He served as president of this organization in 1932 and 1933. During 1932, 1933 and 1934, he was vice president of the American Petroleum Institute. He was selected by President Franklin D. Roosevelt as a member of the Planning and Coordination Committee to formulate the petroleum code. On this committee he served as vice chairman.

Talks were made by Walter S. Hallanan, Charleston, West Virginia, president of Plymouth Oil Company; Walter A. Jones, Pittsburgh, counsel for the Plymouth Oil Company; and Wilmer R. Schuh, Milwaukee, president of the National Association of Petroleum Retailers, Inc.

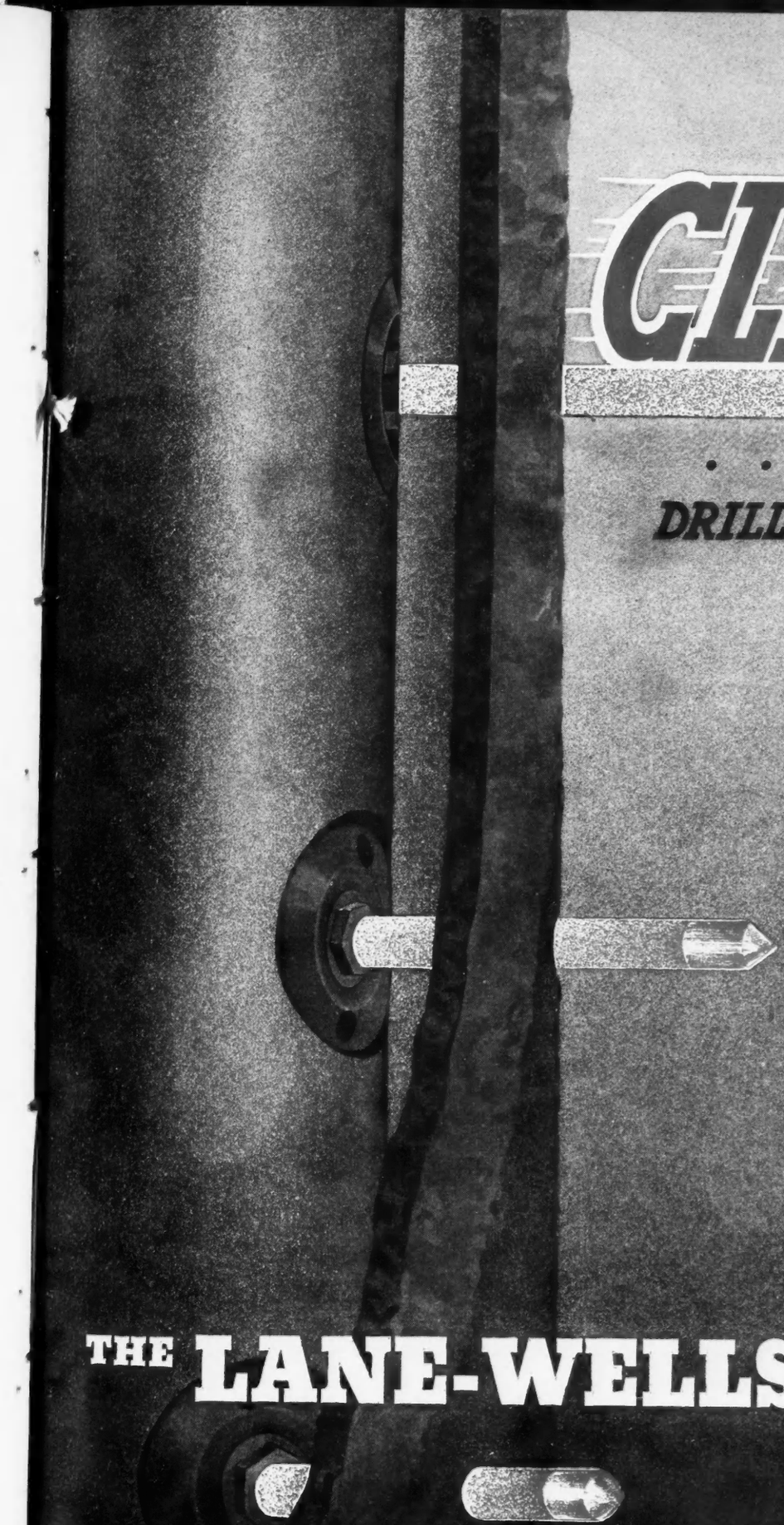
Governor E. W. Marland of Oklahoma, chairman of the Interstate Oil Compact Commission, was scheduled as guest speaker at the annual banquet, but was unable to leave the state on account of official duties. A prepared speech advocating conservation of petroleum resources was read by Ex-Senator Tom Anglin of Oklahoma, in the absence of the governor. Capt. J. F. Lucey, Dallas operator, presided as toastmaster, and Blaine Johnston, Dallas, was master of ceremonies for the floor show given in conjunction with the banquet and dance that followed. E. L. Smith, president of the E. L. Smith Oil Company, Dallas, was chairman of the general convention committee.

Selection of Charles F. Roeser, Fort Worth producer and an active leader in oil association activities for a number of years, as president of the Independent Petroleum Association of America marks the first change in leadership of the national body of independent oil men since it was created in June, 1929, at Colorado Springs. Wirt Franklin, prominent Oklahoma operator who fostered the idea of forming an organization to promote the welfare and protect the interests of the independent branch of the industry, refused to stand for re-election, owing to impaired health, at the annual meeting held here November 4 and 5. Franklin had served continuously as president of the body since its inception, and during his six years of service attained a national reputation in oil circles as a champion of the independents' cause.

In accepting the nomination, Roeser stated that he would adhere to and carry out the policies of the Association, and put forth his best efforts in building a stronger organization to defend the rights of the domestic oil men. He promised to serve as president without compensation, adding that he had never accepted renumeration from companies or associations during the years that he served as president of Texas Oil & Gas Conservation Association and as vice-president and chairman of the division of production for the American Petroleum Institute. As an active member of the planning and coordination committee during the life of the petroleum code, Roeser spent considerable time at Washington. He is considered amply qualified to represent the independents in the event pending sessions of Congress deal with important legislation pertaining to the oil industry.

Franklin assured the membership that he would continue to be active as a member of the executive committee. He did not preside at the business sessions, but was a close observer of the proceedings. A parchment scroll signed by officers and directors of the association was presented to Franklin as a testimonial of appreciation of his leadership and efforts to protect the interests of the independents. Franklin took occasion in his farewell speech to express his personal gratification in the choice made by the membership in electing their new leader. He warned that factions opposing the policies of the association would make efforts to attack the new executive personnel, adding that insidious rumors reflecting upon the integrity of the leaders in the past were

[*Continued on page 70*]



CLIMAX

. . . . TO YEARS OF DRILLING IMPROVEMENT

Lane-Wells Gun Perforator Service now brings to oil producers the fullest utilization of the four basic improvements in drilling and production methods: (1) Better geophysical research, (2) Better coring methods, (3) Better water-locating practice, and (4) Better cementing technique. . . Every one of these improvements paved the way for more profitable production by perforating, but mechanical difficulties were not entirely overcome until the advent of the Lane-Wells Gun Perforator, which brought to the perforating process a degree of accuracy, safety and dependability hitherto unknown. . . Over two thousand wells, in all major fields, have been Gun-Perforated and are today profitable to their owners—conclusive proof of the success of Lane-Wells Gun Perforator Service.

NOTE: Devices used and Method of Operation are fully protected by U. S. Patent No. 1,581,184 issued April 27, 1926, and other U. S. and Foreign Patents Pending.

THE LANE-WELLS CO.

Gun Perforator Service

LOS ANGELES • HOUSTON • TULSA • OKLAHOMA CITY • NEW YORK

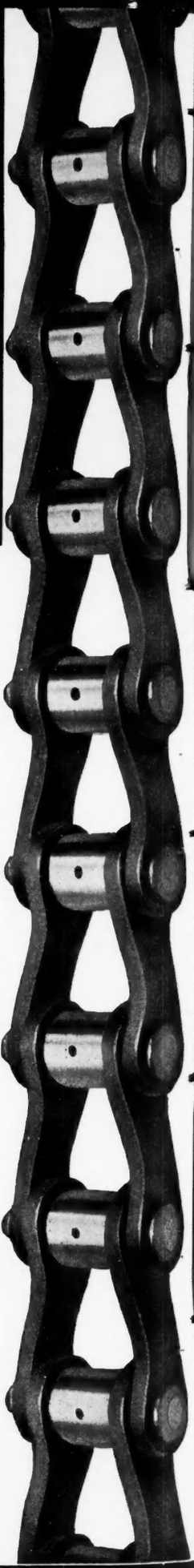
WELCOME TO A. P. I.

We extend hearty greetings to all members of A. P. I. attending the Annual Convention in Los Angeles, November 11th-14th. . . We will do our best to make it pleasant for you socially. . . We also invite you to attend an interesting Field Demonstration of Gun Perforator Service, for which transportation will be supplied. Details will be furnished you on November 11th.

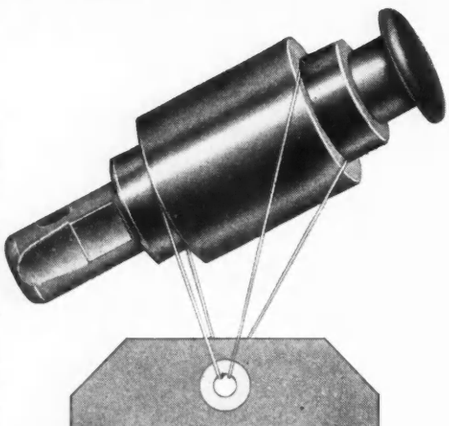
YOU'LL GET LONGER LIFE ON YOUR RIG

BECAUSE the REX 4-DRILLED OIL LEADS *ARE* CORRECTLY PLACED

TO SEND OIL TO THE FINELY FINISHED BEARING SURFACES



HERE'S WHY DEEPWELL IS THE "ALL-PURPOSE" CHAIN



The finer finish of the higher strength materials in the Deepwell roller, bushing, and pin — plus more efficient lubrication — makes Deepwell the "all-purpose" chain that gives you lower costs on deep-well, high-speed drilling operations. It's the best drive available for unitized rigs that move from field to field.

The 4 Rex Oil Leads help to make Deepwell a smoother running—longer lasting—more economical rotary drill rig drive—no matter how deep or how tough the drilling is.

Two of the oil leads are *always* in lubricating position. As long as your drillers keep oil on the chain two of them are *always* leading oil to the pins by centrifugal force supplied by the motion of the chain.

The 4 Rex Oil Leads are Deepwell's insurance against "gall" and "stretch"—they constantly provide the rolling film that prevents friction between the ground bushing and ground pin—they enable Deepwell to *hold* all the built-in wearing value of its finely finished, higher strength parts.

Insist on Deepwell DW-3—or DW-4—on your High Speed Deepwell rigs.

The greatest chain that ever hit the oil fields.

CHAIN BELT COMPANY
1639 West Bruce St., Milwaukee, Wis.

DISTRIBUTORS

MID-CONTINENT AND GULF COAST DISTRIBUTORS
Frick-Reid Supply Corporation
Lucey Products Corporation — Murray-Brooks Hardware Company, Ltd.
Norvell-Wilder Supply Company — Rex Supply Company

CALIFORNIA DISTRIBUTORS
The Republic Supply Co. of California

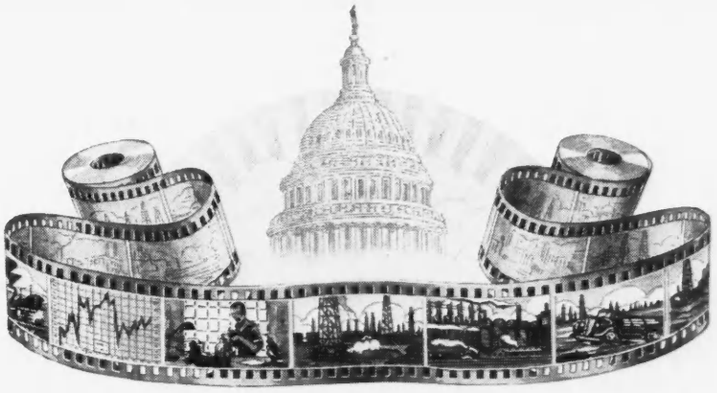
EXPORT
Chain Belt Company, Chrysler Building, New York
Lucey Export Corporation, Woolworth Building, New York
William E. Knight, 2-3 Norfolk St., Strand, London, W. C. 2, England

THE GREATEST CHAIN THAT EVER HIT THE OIL FIELDS

CHAIN BELT COMPANY

REX DEEPWELL CHABELCO

The Changing Panorama



THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by JACK LOGAN, Associate Editor

FOR some time the oil industry has been getting along sufficiently well that it has been sticking strictly to business, with little time left for less direct matters, such as economic problems, politics, or the affairs of competitors.

Not since the early part of the depression has there seemed to be quite as much normal breathing or quite as little anxiety, suspicion, or instability.

The oil business, like most of industry in general, lately has been experiencing, in fact, a bona fide "breathing spell."

Favorable Conditions Prevail

Prices of oils, from well to service station, are comparatively attractive, following the recent increases in California and the gains in Pennsylvania.

Throughout the country the various branches of the industry currently are in position to show profit. The earnings for the year generally are expected to compare favorably with those of last year, and for some companies probably will be the best since 1930 or 1929.

Meetings Are Important

Nevertheless, the past two years have demonstrated rather conclusively that outside economic and political matters can exert large and direct effect on the welfare of any oil company, and that oil men must keep their eyes open in that connection if they are to protect their interests.

Consequently, much importance attaches to this week's annual meeting of the American Petroleum Institute at Los Angeles, as well as to last week's meeting of the Independent Petroleum Association of America at Dallas.

For while oil companies in recent weeks may have paid most of their attention to their individual affairs, they will tend to be turned back by these industry-wide meetings to proper concern over the general welfare of the industry. The meetings bring out into the open old and new problems and questions. And through the meetings likely will come crystallization of opinion on various important matters affecting the industry, as well as improvement of some conditions.

A.P.I. Program Constructive

President Axtell J. Byles of the American Petroleum Institute has sounded the keynote of that organization's November 11-14 meeting at Los Angeles in the statement: "It is my hope . . . that an outcome of this meeting will be the development of solidarity of thought and action within the petroleum industry."

In connection with the meeting it is expected that four highly important preliminary reports will be submitted to the Institute's executive committee and board of directors. Four special committees are preparing such reports, covering the industry's production, refining, marketing, and transportation operations, with special study of economic factors.

The production committee, headed by J. Edgar Pew, of Sun Oil Company, Philadelphia, is reported making a comprehensive study of an especially important subject, the matter of the nation's proved and prospective petroleum reserves. The reserves have an important bearing on the future of the industry and the nation. Authoritative information such as this committee is expected to supply consequently would be particularly helpful in the determination of technical operating programs for oil producers, as well as in designing of conservation plans and governmental policies affecting oil.

Other Production Features

Of general interest to oil producers will be a discussion of the Interstate Oil Compact by Governor E. W. Marland, of Oklahoma, and a discussion of proration laws and programs by Chairman E. O. Thompson of the Texas Railroad Commission. The Institute's president at the opening general session will review the oil industry's progress in solving technical problems and in overcoming numerous handicaps.

The technical papers for the production division,

embracing a wide variety of subjects, will include, among others, discussions of metallurgy, corrosion, research, oil recovery, and drilling practice.

Refining and Marketing

The refining division's group sessions will embrace discussions of lubrication, automotive fuels, the new polymerization process for converting gases into gasoline, and other subjects.

A highlight of the program for the marketing division will be a discussion of the proposed new marketing code. This discussion will be by C. E. Arnott, of Socony-Vacuum Oil Company, New York, the Institute's vice president for marketing. Under the proposed code, the industry would replace the invalidated NRA oil marketing code with a new voluntary code, supervised by the Federal Trade Commission. Such a code was employed prior to advent of the NRA.

IPAA Adopts Program

At the conclusion of its two-day convention at Dallas November 4-5, the Independent Petroleum Association of America adopted a definite program for the coming year, involving five objectives. The objectives include: (1) federal restriction of imports, (2) orderly restriction of storage withdrawals, (3) balancing of crude production with consumption, with individual producing states sharing equitably in the market, (4) voluntary, orderly development of new fields, and (5) federal approval of voluntary agreements within the industry.

Favors Limited Federal Restraints

It is significant that the IPAA went on record as being opposed to federal control of the petroleum industry, although reiterating its conviction that "the assistance of the federal government may be properly invoked in order to protect the various oil producing states in those interstate situations where the laws of single states may have no authority."

Previously, in the past two years, the association's leaders had actively advocated stronger federal control. First they favored the strict control called for in the original Thomas-Disney bill. When that bill failed to pass, they then fostered a new Thomas bill. The new bill was a modified form of the original measure, substituting federal shipping quotas for the originally proposed federal crude production quotas.

Former Attitude Changed

In the present program the association indicates that it has retreated still further from its original advocacy of federal control. It now gives only carefully worded approval of federal restrictions. The five point program invites help from the federal government only in restricting imports and in connection with voluntary agreements that might be made within the industry. There is no approval of direct control of crude production by federal authorities; no inviting of federal regulations over producing, refining, or marketing, such as existed under the NRA oil code.

In connection with the IPAA's new attitude toward federal control, the modification of policy appeared doubly noticeable because of the change of leadership of the organization. The former president, Wirt Franklin, who founded the association six years ago, voluntarily stepped aside, and into his place went Charles F. Roeser.

The new president, on being questioned as to his proposed policies, emphasized that "the association's program is also my own." In reply to a question he added that he was opposed to federal control.

While the association's leaders in the past actively favored the federal control programs, they had the full support of some members, particularly in Oklahoma. But various operators and companies in the organization, especially some in Texas, originally or finally turned thumbs down on federal control.

Consequently, it would appear that the new policies and new leadership may be conducive to increased harmony and solidarity in the association.

Industry More Unified

Similarly, the new program of the IPAA may be expected to promote greater solidarity within the industry as a whole. The new IPAA policy coincides very closely with the general policy enunciated last spring by the directors of the API. Those leaders deprecated federal control of the industry, and asked that federal activities in oil matters be restricted primarily to retaining the Connally hot oil shipping law, approving the interstate compact, furnishing estimates of consumptive demand for oil (through the Bureau of Mines), and controlling imports if necessary.

Thus the IPAA and the API now more nearly see eye to eye; whereas formerly their objectives, like their initials, were in some matters directly opposite. And thus the industry now is less divided against itself, and more unified for facing the various important problems that can be solved satisfactorily only through cooperative effort, such as temperance in crude production and in refinery operations, and discretion in marketing policies.

Small Clouds Gather

Despite the more cheerful atmosphere in the oil markets because of the higher crude postings in California, there is not any rampant enthusiasm over the outlook. It is not forgotten that unfavorable weather and smaller gasoline consumption lie just ahead. Also, it is not assured that export business will continue for long at the lively proportions brought on in recent months by the wars and rumors of wars. Nor is it at all certain that production of crude and gasoline will continue to be balanced with consumption as closely as in the past, with a seasonal decline of demand impending.

In view of all these circumstances, it appears that the industry will be fortunate if it can hold near its present position in the months just ahead. And any change in the immediate future would be more likely to be in reverse than forward.

Gasoline Market Weaker

In fact, the past week brought some minor weakening of the market structure. Gasoline tank car prices at East Texas refineries late last week were down an eighth cent from the levels of a week previously. Quotations in the Group Three (Oklahoma) region, however, were holding unchanged, as were kerosene prices throughout the Mid-Continent. While less favorable weather possibly was responsible in part for weakening of the gasoline market, another cause was some increase lately in hot oil producing and refining in East Texas, with output estimated around 35,000 barrels daily.

WHEN THE CURTAIN WAS RUNG DOWN ON THE . . .

Greatest drama of all ages

. . . on November 11, 1918, there was unrestrained joy over the ending of the saddest spectacle in all history. Today it may be difficult to recapture those emotions of Armistice Day, yet there are experiences in the lives of soldiers that can always be recalled with the greatest vividness, namely: MUD, MUD, and more MUD.

There is a drama of ambition, fight, reward, disappointment and high courage being enacted every day in the great oil fields of the Gulf Coast . . .

Lines of communication must be maintained often through MUD, MUD, and more MUD. There must be quick action in emergencies; and above all there must be courageous cooperation . . . When there is work to be done, there is a *top sergeant* who will never fail you. Call him. He is the Norvell-Wilder Man.

Norvell-Wilder Supply Company

MEN IN THE INDUSTRY'S NEWS

L. E. BARROWS MADE PRODUCTION MANAGER OF THE TEXAS COMPANY OVER VAST TERRITORY

PAUL R. MARTIN, chief scout for Pure Oil Company in the Fort Worth division, departed last week for Los Angeles on a vacation deferred so as to attend an intersectional football game in the latter city.

ROBERT J. GIVEN, petroleum engineer, formerly with the Shell Petroleum Corporation, is now associated with W. B. Pardoe of The Dapar Oil Company at Alma, Michigan.

SALVADOR DEL RIO, of the production engineering department of Huasteca Petroleum Company at Cerro Azul, Veracruz, is visiting various properties of the Humble Oil & Refining Company in Texas.

W. S. S. RODGERS, president of The Texas Company, New York, has been spending a few days in Houston and vicinity visiting properties of the company. Mr. Rodgers left Houston for West Texas and New Mexico, where he will visit company holding in those regions while enroute to the American Petroleum Institute meeting in Los Angeles.

CARLOS LAMAR, in charge of the lands department of Mexican Gulf Oil Company, at Tampico, is in San Antonio on a vacation.

R. O. JACKSON, independent oil operator of San Diego, California, was married to Miss Francesca Hunter of Los Angeles at Oklahoma City on November 4.

CHARLES N. TAYLOR, general manager of Taranaki Oil Fields Company, the largest oil concern in New Zeland, has arrived in Los Angeles on his way to Europe. While in the United States Mr. Taylor will purchase considerable equipment for an extensive drilling campaign which his company will undertake shortly.

J. HARRY WOOD, pipe line superintendent for Atlantic Pipe Line Company, has returned to headquarters at Dallas after spending the past several months assisting with the extension of the Keystone Pipe Line Company's gasoline line from Mechanicsburg to Pittsburgh, Pennsylvania. Both concerns are transportation units of the Atlantic Refining Company.

N. F. HENDERSON, Humble Oil & Refining Company, has been transferred from the Gulf Coast division office to Darrow, Louisiana, as district petroleum engineer.

A. R. TILLOTSON, independent producer, has returned to Tampico after an extended trip in the United States.

J. W. WINFREY, district petroleum engineer, Humble Oil & Refining Company, was transferred from the Tomball district to the Gulf Coast division office as assistant division petroleum engineer.

WILL MOVE HEADQUARTERS FROM FT. WORTH TO HOUSTON

L. E. BARROWS

L. E. BARROWS, who has been manager of production for The Texas Company in the Fort Worth division, embracing West Texas and New Mexico, has been appointed manager of the producing department of The Texas Company of Delaware, a unit of The Texas Corporation that operates in the Greater Mid-Continent, Southwest, Gulf Coast and Rocky Mountain States. The promotion was made public November 5, at the conference held at Fort Worth by R. Ogarrio of New York, vice-president in charge of production; R. F. Baker of New York, chief geologist; Fred C. Sealey of Houston, manager of production in the South Texas division; and Mr. Barrows. Barrows has had supervision over the territory along with his duties as manager of the Fort Worth division through having been made an assistant to Ogarrio several years ago. He will maintain headquarters at Houston, and is preparing to move from Fort Worth to the latter city late this month. Management of the Fort Worth production division office will be assigned to J. L. McMahon, who has had charge of the North Texas and Panhandle division with headquarters at Wichita Falls for a number of years. McMahon will divide time between Wichita Falls and Fort Worth.

GEORGE C. NOVAK, field engineer for the oil interests of Sam Katz and associates, has returned to Tampico after a vacation spent principally in Chicago and St. Louis.

DR. DONALD C. BARTON was the speaker at the Houston Geological Society's weekly meeting November 7, discussing the relationship of Cretaceous oils of Texas and Louisiana.

J. S. BOLDRICK, district petroleum engineer, Humble Oil & Refining Company, has been transferred from Thompsons district to the Tomball district.

L. C. CHASE, in charge of the stocks and shipping department of Cia. Mexicana de Petroleo "El Aguila" S.A., with headquarters at Tampico, is on a business trip to Mexico City and Vera Cruz.

WILLIAM B. WAY, general manager of the International Petroleum Exposition, journeyed down to Dallas last week to personally invite members of the Independent Petroleum Association of America to attend the Tulsa show next May.

D'ARCY M. CASHIN, independent consulting geologist and appraisal engineer of Houston, has just returned from a six week's vacation motor trip through the Pacific Northwest.

FRED C. METZGER, 50, chief civil engineer for Sun Oil Company, Dallas division, died November 3 at his Dallas residence from a heart attack. He was a native of Indiana, and graduated from Perdue University besides two years at the University of Wisconsin. His services with the Sun Oil Company date back to November 1, 1918, as an engineer in the Beaumont division, and three years later he was transferred to Dallas. Survivors include his wife and a daughter, Miss Catherine Metzger. Dallas offices of the company were closed for the funeral services on November 5.

JAMES A. FISHER, 65, pioneer North Texas operator and member of the firm of Fisher & Gilliland, died November 4, at his Wichita Falls residence after several months' illness.

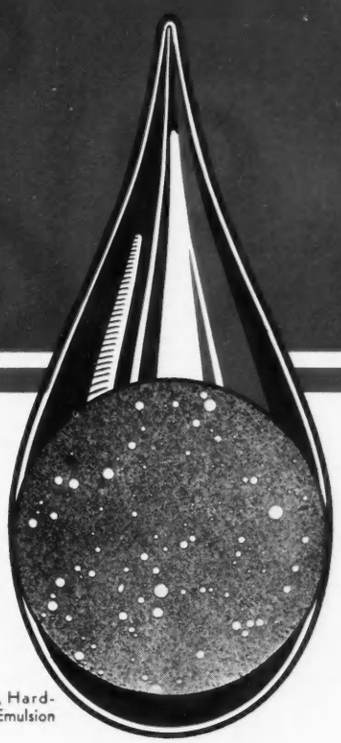
RALPH J. BLACKBURN, 52, assistant treasurer of Magnolia Petroleum Company, Dallas, died November 4 after a brief illness. He had been an employe of the company and its predecessors since 1903.

A. J. DAVIS, auditor of Mexican Sinclair Petroleum Corporation, has returned to Tampico after an extended visit in the United States.

O. F. KULLENBERG, accountant for Western Gulf Oil Company at Los Angeles, was instantly killed in an automobile accident October 31. Mr. Kullenberg, accompanied by his family and relatives, left Los Angeles October 30 for a vacation trip to Arizona. While nearing Phoenix, Arizona, his car was forced to the side of the road, and went

As production increases —

EMULSIONS GET TOUGHER AND TOUGHER



A Tough, Hard-Treating Emulsion

A Typical "Loose" Easy-Treating Emulsion

Crude oil emulsions usually are of the water-in-oil type, and either "tight" or "loose" in character. These terms are synonymous with fine and coarse and refer to the fineness of the emulsion particles. The tighter the emulsion the harder it is to break and the more extreme are the measures required to treat it. As wells are opened up and production is increased by pumping or other methods, the increased agitation causes the emulsions to become tighter and tighter and, from the standpoint of treating, tougher and tougher.

Producers may well give due consideration to this important fact now. Wells producing pipe-line oil under sub-normal conditions may develop extremely difficult emulsions under normal or abnormal conditions. Treating processes that may accomplish satisfactory results with loose, easy-treating emulsions often prove entirely inadequate or result in prohibitive losses of gravity and revenue as the emulsions get tighter.

Successful solution of emulsion problems depends largely on advanced and skillful planning to meet all eventualities of constantly changing field, production and market conditions. Many operators long have relied entirely on Petreco engineers and technicians for this service, with eminently satisfactory results. It is available to all producers of emulsified crude without cost or obligation

PETROLEUM RECTIFYING COMPANY of CALIFORNIA

General Offices. 530 West Sixth Street, Los Angeles, California

Branch Office: Houston, Texas. Branches and Service Men in Principal Oil Fields.

PETRECO

The Electrical Process for Dehydrating Crude Oil Emulsions.

IDEAL "CUT" HIGHEST GRAVITY MAXIMUM PRICE

over a steep embankment. His mother-in-law and sister-in-law were also killed, while his wife sustained severe injuries. Mr. Kullenberg is survived by his wife, two sons and one daughter.

ALLEN S. HICKS who is sales representative for Hydril Company in Oklahoma and Kansas now is located at 3306 South Zunis in Tulsa. He formerly resided in Houston.

A. D. BARR now is located in Tulsa as special sales representative of Air-Maze Corporation of Cleveland, Ohio, manufacturers of filters for industrial uses. He will include in his territory the states of Oklahoma, Kansas and Texas.

THOMAS G. KELLIHER, acting director of Federal Petroleum Agency No. 1, which enforces the Connally hot oil transportation law in East Texas, returned to Kilgore headquarters November 4, after attending a conference at Washington the previous week. John F. Davis, a member of the federal tender board, has been absent for several weeks without a substitute.

DR. W. J. LYNN, in charge of the medical and sanitation departments of Cia. Mexicana de Petroleo "El Aguila" S.A., (Royal Dutch Shell subsidiary), transferred his headquarters from Tampico to Mexico City on November 1.

Production Peak

SEPTEMBER OUTPUT HIGHEST SINCE JUNE OF 1933

REACHING the highest daily average since June, 1933, crude petroleum production in September totaled 84,109,000 barrels, the total output, however, being some 700,000 barrels under the August figure of 84,816,000 barrels, according to the monthly report issued by the Bureau of Mines November 4.

The September production was 8,350,000 barrels over the 75,759,000 barrels reported for the corresponding month in 1934 and brought the total output for the first nine months of the current year to 730,595,000 barrels, compared with 684,276,000 barrels for the same period last year.

The daily average production of 2,803,600 barrels recorded in September, the bureau commented, was 67,600 barrels above August and 278,300 barrels above September, 1934.

California and most of the other producing states exceeded their "recommendations" during the month, but several, including Oklahoma and Kansas, stayed within their quotas.

Daily average production in the East Texas field declined in September, the bureau reported, but all the other major districts of Texas recorded increases and the average for the state rose to 1,068,800 barrels, compared with 1,059,600 barrels in August. Daily average production in Oklahoma and Kansas showed little change, but Louisiana made another new record and California registered another large increase. Production in the new Rodessa field averaged nearly 5000 barrels daily for the month.

Crude Runs High

Crude runs to stills kept pace with production, it was found, and the withdrawal of from 100,000 to 150,000 barrels daily from crude-oil stocks, which began some months ago, was continued in September. Total stocks of refinable crude on September 30 were 320,005,000 barrels, compared with 324,966,000 barrels August 31, and 349,407,000 barrels September 30, 1934.

Increased crude runs, the seasonal decline in gasoline demand and increased demand for domestic heating oils set the stage for a further reduction in the percentage yield of gasoline, which for the month was 44.2 percent compared with 44.8 in August and 45.3 in July, it was stated.

"The domestic demand for motor fuel in September failed to fulfill expectations by approximately the same amount that the demand in August exceeded them," the bureau commented. "The domestic demand was 37,862,000 barrels, or only about three or four percent over the computed 'normal' for a year ago. However, exports of motor fuel showed no signs of diminishing; in fact, the total for September was higher than in August and about 60 percent above September, 1934. Stocks of finished and unfinished gasoline were not reduced as much as anticipated, the total on September 30 being 51,334,000 barrels, or only 366,000 barrels lower than stocks at the close of August.

"The demand for most of the other refined products, particularly that for fuel oil, increased materially in September."

The price index for petroleum products for September, according to the bureau of labor statistics of the Labor Department, was 50.6, compared with 52.4 for August and 51.3 for September, 1934.

Details of the September supply and demand are given in the following table, prepared by the bureau.

Supply and Demand of All Oils

From Bureau of Mines September Report on Petroleum
(Thousands of barrels of 42 gallons)

	September, 1935	August, *1935	September, 1934	Jan.-Sept., 1935	Jan.-Sept., 1934
New Supply:					
Domestic production:					
Crude petroleum	84,109	84,816	75,759	730,595	684,276
Daily average	2,804	2,736	2,525	2,676	2,507
Natural gasoline	3,202	3,064	3,074	28,032	26,786
Benzol †	162	159	116	1,333	1,336
Total production	87,473	88,039	78,949	759,960	712,398
Daily average	2,916	2,840	2,632	2,784	2,610
Imports‡:					
Crude petroleum:					
Bonded warehouses	886	802	530	5,605	3,036
For domestic use	2,022	2,552	2,398	18,579	23,524
Refined products:					
Bonded warehouses	1,035	956	807	9,236	7,651
For domestic use	804	502	445	6,911	3,222
Total new supply, all oils	92,220	92,851	83,129	800,291	749,831
Daily average	3,074	2,995	2,771	2,931	2,747
Decrease in stocks, all oils	4,466	7,959	2,349	10,561	14,289
Demand:					
Total demand	96,686	100,810	85,478	810,852	764,120
Daily average	3,223	3,252	2,849	2,970	2,799
Exports:					
Crude petroleum	4,971	4,946	4,068	38,181	30,733
Refined products	7,867	6,631	5,929	55,196	55,139
Domestic demand:					
Motor fuel	37,862	42,836	34,669	321,465	303,853
Kerosene	3,892	3,631	3,572	33,327	31,065
Gas oil and fuel oil	28,160	27,389	24,747	252,758	241,123
Lubricants	1,697	1,667	1,338	14,769	13,926
Wax	73	75	56	678	661
Coke	548	517	487	4,848	5,725
Asphalt	1,889	2,223	1,671	12,567	10,679
Road oil	1,037	1,453	772	5,762	5,541
Still gas (production)	4,363	4,608	3,835	37,808	33,184
Miscellaneous	138	180	168	1,581	1,581
Losses and crude used as fuel	4,189	4,654	4,166	31,912	30,910
Total domestic demand	83,848	89,233	75,481	717,475	678,248
Daily average	2,795	2,878	2,516	2,628	2,484
Stocks:					
Crude petroleum	320,705	324,966	349,407	320,705	349,407
Natural gasoline	5,133	5,578	4,611	5,133	4,611
Refined products	227,749	227,509	233,891	227,749	233,891
Total, all oils	553,587	558,053	587,909	553,587	587,909
Days' supply	172	172	206	186	210

*Revised.
†From Coal Division.
‡Imports of crude as reported to Bureau of Mines; imports of refined products from Bureau of Foreign and Domestic Commerce.

A.P.I. Meeting Opens

PROBLEMS AND PROGRESS OF INDUSTRY PROGRAM FEATURES

LOS ANGELES.

THE oil industry's largest convention, the annual meeting of the American Petroleum Institute, opened in Los Angeles this morning for a four-day session, November 11 to 14. A goodly portion of the 3000 to 3500 oil men expected to attend already have arrived. The first of five special trains moving over the Nation's principal railroad systems from various oil refining and producing centers of the country arrived yesterday, November 10. In addition many have arrived by automobile and by airplane.

A review of progress made by American industry in the past 76 years in providing the United States and other countries with an uninterrupted and abundant supply of petroleum products appears as a feature on the program for this year's meeting, the Sixteenth Annual Meeting of the Institute.

Three Guest Speakers

The program presents among the speakers, Governor E. W. Marland of Oklahoma, who will discuss interstate oil compacts. Legislation enacted by the last Congress has permitted oil-producing states to make compacts designed to promote orderly production of crude oil and conservation of the Nation's petroleum reserves. Mr. Marland is chairman of the Interstate Oil Compact Commission, which now is engaged in drafting workable regulations for actually placing the interstate compact in force. Also on the speaking program is Colonel E. O. Thompson, who will discuss the purpose and operations of laws prorating production of oil among fields and wells to balance output with demand. Mr. Thompson is familiar with this subject, being chairman of the Texas Railroad Commission, which body is charged with the duty of performing this work in the Nation's largest producing state. A third prominent speaker will be Charles S. Jones, whose address will concern conditions in California, which subject is particularly interesting at this time since this large oil producing state is the only one having a large over production at present, and where crude prices were cut in half recently. Mr. Jones is president of the California Oil and Gas Association. All three of these speakers will appear before the assembled group at a general session to be held Wednesday afternoon, November 13.

Attention will focus also upon the address of the Institute's president, Axtell J. Byles, to be delivered at a general session on Tuesday afternoon, November 12. He will review the progress made and services rendered by the American petroleum industry since the drilling of the first commercially productive wells in Pennsylvania in 1859. His address is to be based largely upon conclusions reached in a survey of the industry made by Institute committees during the past few months with a view to ascertaining the extent of the nation's oil reserves, steps necessary to their proper development, and possible changes essential to improvement in service rendered the American oil-consuming public.

With Byles on the first session's speaking program will be C. E. Arnott, Socony-Vacuum Oil Company, Inc., who is vice president of the Institute Marketing Division. He will discuss the proposed new marketing code.

The field of taxation, particularly as it affects the petroleum industry and its customers, will be covered by General Baird H. Markham, director of the American Petroleum Industries Committee, at the Tuesday general session.

Many Technical Meetings

Other sessions of the Institute's meeting will be given over largely to technical work. All day Monday, November 11, will be devoted to committee meetings, and the first group session will be held by the Institute's division of Production Tuesday evening. The general topic will be metallurgy and corrosion, with production engineers and metallurgists discussing steel used in production equipment and the effects of corrosion.

Drilling and production practice in California are to be considered at a Division of Production group session the morning of Wednesday, November 13, with A. C. Rubel, of Union Oil Company of California, presiding. The Divisions of Refining and of Market-

American Petroleum Institute Guest Speakers

E. W. MARLAND
Governor
State of Oklahoma

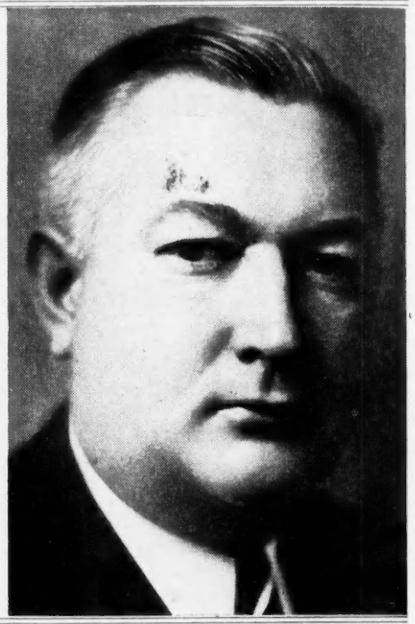
E. O. THOMPSON
Chairman
Texas Railroad Commission

C. S. JONES
President
California Oil and Gas Association

American Petroleum Institute Executives

Executive Vice President
W. R. BOYD, JR.

President
AXTELL J. BYLES



Secretary
LACEY WALKER

ing group sessions to consider lubricants and marketing code work.

E. C. Gaylor, of Standard Oil Company of California, will preside at the Thursday morning group session of the Division of Production, with the general subject to be research and oil recovery. The Division of Refining will consider Diesel engine development, and the Division of Marketing will undertake discussion of marketing economics and automotive servicing. At afternoon group sessions on Thursday discussion will concern drilling practice and automotive fuels.

To Make Field Trips

Friday, November 15, will be given over to oil field inspection tours and a golf tournament.

Each of the three great oil producing districts of California, the San Joaquin Valley, Coastal District and Los Angeles Basin, will draw the attention of delegates during the field trips. In each of these three geographic subdivisions are located interesting subjects for study and inspection. In order to catalogue the more important operations of the various companies in these areas a questionnaire was circulated by which each company was requested to list their operations of outstanding interest. From the replies to this questionnaire a catalogue will be compiled by which visiting oil men can indicate in advance the particular features of interest they care to inspect.

A review of early replies to the inquiries indicates that Kettleman Hills North Dome will be the field of principal interest in the San Joaquin Valley, with Belridge and Lost Hills operations standing next in order of importance. Marine drilling at Elwood field with two and more wells drilled from a single pier location, in water ranging to 40 feet in depth and extending offshore as far as 2400 feet, together with extensive deep drilling at Ventura Avenue field, are the principal items of interest in the Coastal region. At Ventura Avenue is also located the world's deepest producing well, Lloyd Number 131 of Associated Oil Company, which is flowing from a depth of 9,846 feet. Deeper wells have been drilled both in California, Oklahoma, Louisiana and in Texas but as yet none have encountered commercial production from a greater depth.

A Message to Oil Men

With pleasure I again invite the oil men of America to attend and to participate in an annual meeting of the American Petroleum Institute. This Sixteenth Annual Meeting, to be held in the Biltmore Hotel, at Los Angeles, California, November 11 to 14, will, like earlier annual meetings, provide the oil forum of the United States.

Because of serious issues involving the future of the industry, the 1935 meeting is particularly important. It is my hope that every oil man will attend. It is my hope also that an outcome of this meeting will be the development of the solidarity of thought and action within the petroleum industry.

—President Axtell J. Byles

In the Los Angeles Basin separate field committees have been organized at Santa Fe Springs, Long Beach and Dominguez fields to prepare the stage for the official visit of the A. P. I. membership. It is in these three fields that various engineering and equipment companies are preparing to demonstrate their products under actual field conditions. These three fields are of major importance in the Los Angeles Basin area but there are also several other districts of note, outstanding among them being Huntington Beach town-lot field with a part of its structure underlying the ocean which has been extensively drilled by whipstocking from on-shore locations.

Aside from visits to producing areas, trips are also being planned to refineries, terminals, absorption plants, equipment houses and marketing facilities.

Two visits are expected to be made to the California Institute of Technology at Pasadena to inspect the American Petroleum Institute Research Project, "Fundamentals of the Retention of Oil by Sand," under the direction of Dr. Wm. Lacey. The Institute Research Committee will make an inspection visit in conjunction with which an invitation will be extended to everyone interested in a careful study of the project to accompany them. A second visit is planned for those who are interested in the project in a general way but do not care to spend as much time as would be required for a careful study. The second trip will only be

made if sufficient interest is expressed to view the project to make the visit worthwhile. These visits will not be listed as a part of the official program.

Besides the research project, Pasadena offers a number of other attractions of particular interest to the engineering members of the oil fraternity, including the Electrical Laboratory and scale models of pumping equipment for the Metropolitan Aqueduct, located at the Institute. Mt. Wilson Observatory with the Carnegie Laboratories and the Seismograph Station are other objects of particular interest to engineers.

Many Entertainment Features

The California division of the American Petroleum Institute, which is serving as host for the second time in history, has worked hard to make this year's meeting as profitable and enjoyable as possible.

Arrangements have been made for special taxi service available on the arrival of special trains. Temporary taxi stands have been established at the hotels where guests are quartered, and special low rates will apply.

Other special services include an information booth in the Biltmore Hotel headquarters for information on train schedules, airplane arrivals and departures, street car and taxi service, and information on the most direct route to all California points of interest.

The Institute's Annual Dinner will be served in the "Biltmore Bowl", a famous hall using the football-stadium motif for banqueting purposes. Stars of the stage and screen will entertain, at the dinner which will be served on the night of Wednesday, November 13.

Special entertainment has been arranged for wives and guests of visiting members.

Credit for arrangements are due the California committees, of which C. S. Jones is general chairman. The executive committee is composed of R. A. Broomfield, J. A. Crawford, C. S. Jones, Ralph B. Lloyd, C. E. Olmsted, L. P. St. Clair and A. L. Weil. The various committee chairmen are: Finance, R. D. Matthews; Reception, W. C. McDuffie; Entertainment, The Wildcats; Hotel Reservations, C. E. Olmsted; Banquet, W. L. Stewart, Jr.; Transportation, J. U. Stair; Publicity, H. E. Britzman; Golf, J. A. Jones; Committee at Large, W. L. McLaine; Wildcats, J. A. Dunne. In addition there are the general committee and the advisory committee, which are composed of the leading California oil men.

Is Industry's Largest Meeting

The Institute is the largest trade association in the American petroleum industry and has some 4000 members. It constitutes a clearing house for technical and statistical information, conducts oil research projects, and, through the activities of thousands of committees, enables oil men to do collectively that which frequently they are unable to do alone. Many developments in the petroleum industry may be traced directly to original work done cooperatively by Institute members and committees.

The Institute was organized in 1919 to afford a means of industrial cooperation with government, to foster foreign and domestic trade in petroleum products, to promote the interests of the industry generally, and to work for mutual improvement of its members and the study of petroleum arts and sciences. Headquarters are in New York city, and branch offices are maintained at Dallas, Texas, and at Los Angeles. Any American citizen active in the petroleum industry is eligible for election to membership, which consists of individuals rather than companies.

There are three branches of the Institute—the Divisions of Production, Refining and Marketing—in which are enrolled members active in these fields. The work of the Institute is accomplished largely through the functioning of these divisions, and of departments and committees. The committees are numbered in the thousands. Departments include Department of Statistics, Department of Accident Prevention, Department of Public Relations, Department of Engineering, Department of Membership and Finance, etc. Standing committees permanently are assigned to promotion of special work. Other committees and sub-committees are appointed as specific needs arise. One of the largest standing committees is the American Petroleum Industries Committee, which represents the Institute in the fields of taxation and legislation affecting the industry and its customers.

The divisions function within the Institute as separate units interested in their respective branches of the industry. The Division of Production is concerned with such subjects as standardization of equipment, drilling and production practice, unit operation, waste disposal, fire prevention, care of equipment, corrosion, and accident prevention. The Division of Refining currently is working in the fields of corrosion, standardization, motor fuel research, waste disposal, fire and accident prevention, refinery technology, and testing methods and specifications. The Division of Marketing is interested in transportation, waste disposal, fire and accident prevention, and marketing practices.

The Institute holds not only an annual meeting, but also a mid-year meeting. The mid-year session is devoted largely to technical subjects and is usually held at Tulsa, Okla.

A. P. I. Technical Group Secretaries

R. P. ANDERSON
Division of Refining

C. A. YOUNG
Division of Production

D. V. STROOP
Division of Marketing

Monthly Summary of United States Drilling and Production, October, 1935

STATE OR DISTRICT	MONTH OF OCTOBER, 1935						CUMULATIVE, JANUARY THROUGH OCTOBER, 1935					
	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	*Total Bbls. Oil Prod.	Completions	Oil Wells	Gas Wells	Failures	Initial Prod. Bbls. Daily	*Total Bbls. Oil Prod.
Oklahoma	211	134	8	69	148,758	15,529,000	1,907	1,200	91	616	2,271,085	151,356,050
Kansas	114	70	8	36	96,629	4,603,800	1,093	761	32	300	664,829	44,319,650
Texas	811	563	14	234	1,243,358	31,689,550	9,668	7,167	210	2,291	24,416,312	313,094,550
Louisiana	48	26	5	17	13,510	4,771,250	600	287	74	239	141,556	40,315,975
Arkansas	9	2	1	6	72	934,550	111	43	3	65	7,836	9,352,725
Southeastern States	2	....	1	1	....	....	14	....	4	10	....	....
Eastern States	200	43	93	64	640	3,288,750	2,033	610	859	564	12,363	31,937,550
Michigan	67	32	10	25	20,092	1,687,500	453	231	72	150	136,955	12,708,800
Rocky Mountain States	24	17	3	4	6,756	1,789,850	207	161	13	33	51,855	15,823,550
New Mexico	18	16	....	2	35,653	1,758,300	238	187	6	45	521,965	15,316,650
†California	95	59	3	33	12,502	20,072,700	830	555	28	247	524,692	166,458,754
Totals	1,599	962	146	491	1,577,970	86,125,250	17,154	11,202	1,392	4,560	28,749,448	800,684,254

* Figures for October represent not the calendar month, but the four weeks or 28 days ending October 26.
† October figures are preliminary, and will be revised.

Progress in October

FURTHER IMPROVEMENT MADE IN STATISTICAL SITUATION

By JACK LOGAN, Associate Editor

DURING October the petroleum industry further improved its already excellent statistical situation. Crude production and refinery operations were restrained effectively enough to result in further withdrawals from the stocks of both crude oil and gasoline in meeting consumption. At the end of the month stocks of both crude and gasoline were substantially lower than a year previously, in the face of the fact demand has been running appreciably higher this year than last year.

Confirming the evidence of a favorable statistical position was the improvement of prices in the latter part of October, advances having been made in all sections of the country. Crude oil prices were raised in California to approximately the same postings that prevailed before the August 29 reductions. Pennsylvania grade crude also was increased late in October. The Mid-Continent crude prices remained firm, meanwhile, at the long established levels. Gasoline prices improved on the West Coast along with the crude postings, while in the Mid-Continent tank car prices continued around the best levels of the year, and highest for a five year period.

The favorable statistical situation and the accompanying strong markets have furnished encouragement for the drilling of wells, and during October completions continued at a comparatively brisk rate. Average daily completions were fractionally lower in October than in September, but they were 15 percent higher than in October last year.

Crude Stocks Decline

Despite the fact California continued in October to produce more crude than recommended by either the Bureau of Mines or the special committee of producers in that state, United States output as a whole actually was not excessive. This is evidenced by the con-

Crude Oil Stocks

Bureau of Mines figures as compiled monthly, comprising all crude in storage in the United States.

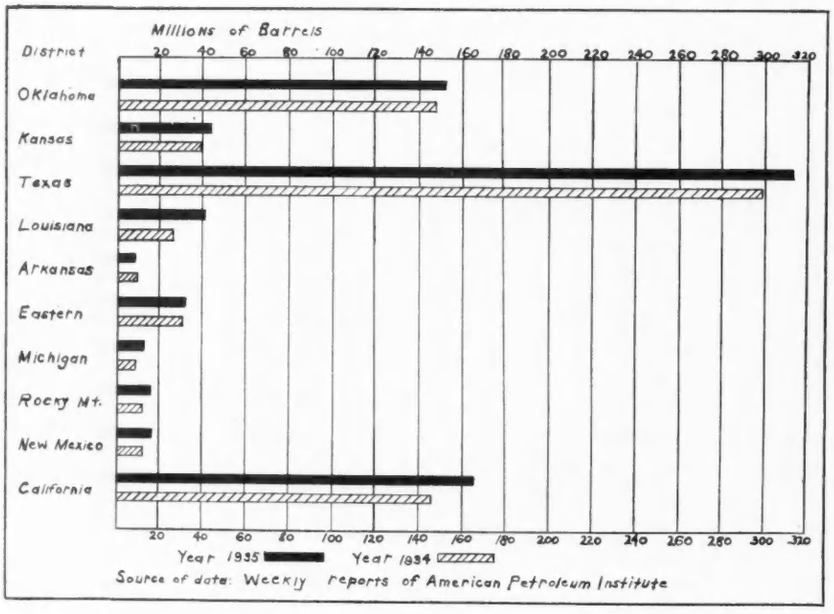
At End of:	Total Bbls. In Storage
August, 1933	360,001,000
September	359,979,000
October	356,885,000
November	355,614,000
December	355,394,000
	*354,305,000
January, 1934	353,642,000
February	531,641,000
March	354,067,000
April	354,350,000
May	355,883,000
June	357,239,000
July	355,260,000
August	350,838,000
September	348,937,000
October	346,415,000
November	341,165,000
December	337,254,000
January, 1935	338,174,000
February	337,319,000
March	339,139,000
April	339,793,000
May	338,559,000
June	334,757,000
July	329,351,000
August	324,966,000

Trend of stocks situation since end of August, figures being from weekly reports to Federal government, embracing 98 percent of total stocks, excluding those of producers.

August 31	309,976,000
September 28	305,050,000
October 19	300,990,000

***On revised basis, 1,089,000 barrels having been transferred from crude to fuel oil in California.**

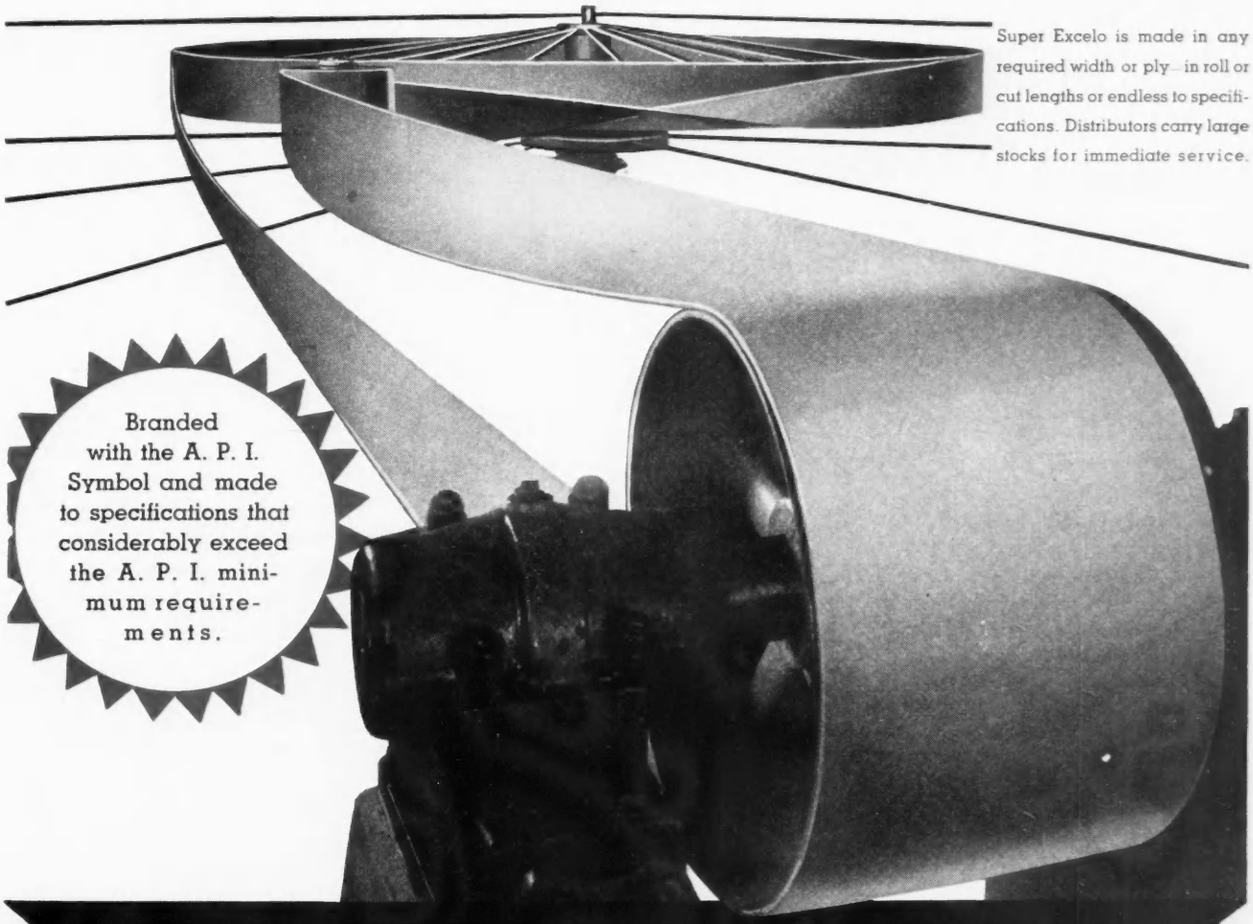
United States Crude Oil Production First 10 Months of 1935 and 1934



SUPER EXCELO

OIL COUNTRY BELTING

• • has, for years, been used for drilling and pumping service on many of the deepest wells and under the most trying conditions in the Mid-Continent and California oil fields. It has never failed to give dependable and economical performance •



Super Excelo is made in any required width or ply—in roll or cut lengths or endless to specifications. Distributors carry large stocks for immediate service.

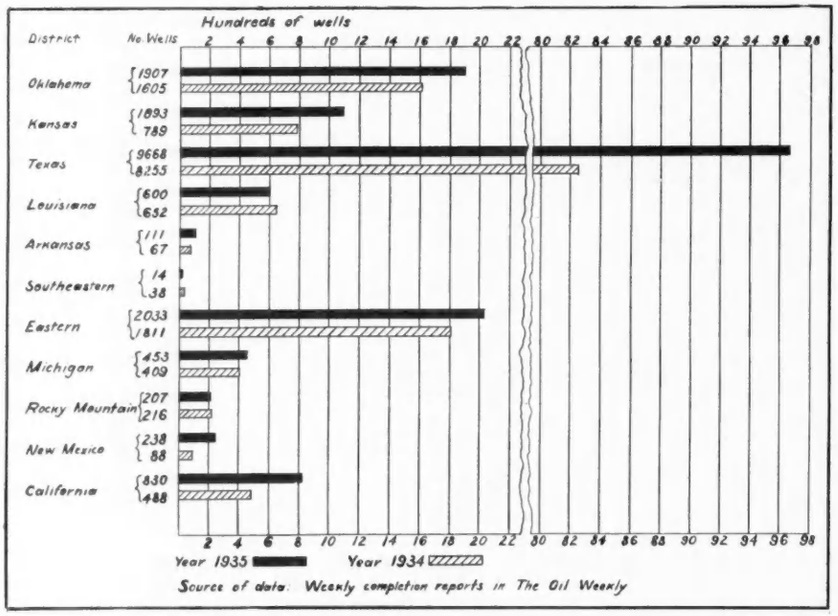
Branded with the A. P. I. Symbol and made to specifications that considerably exceed the A. P. I. minimum requirements.

MID-CONTINENT DISTRIBUTORS: FRICK-REID SUPPLY CORP., TULSA, OKLA. THE BOVAIRD SUPPLY CO., TULSA, OKLA.
PACIFIC COAST DISTRIBUTORS: W. C. HENDRIE & CO., INC., LOS ANGELES, CALIF.—PACIFIC COAST RUBBER CO., SAN FRANCISCO, CALIF.

THE REPUBLIC RUBBER CO. YOUNGSTOWN OHIO

Manufacturers of Rotary and all other types of Hose, Transmission Belting, Packing, Gaskets, Rings, etc. for Oil Country Service

United States Drilling Statistics for First 10 Months of 1935 and 1934



United States Drilling and Production in First Ten Months of 1935 Compared with Similar Period in 1934

STATE OR DISTRICT	WELLS COMPLETED			BBLS. OF CRUDE PRODUCTION		
	In 1935 (10 Mos.)	In 1934 (10 Mos.)	% Change	In 1935 (10 Mos.)	In 1934 (10 Mos.)	% Change
Oklahoma	1,907	1,605	+ 19	151,356,050	148,371,950	+ 2
Kansas	1,093	789	+ 39	44,319,650	37,829,150	+18
Texas	9,668	8,255	+ 17	313,094,550	299,519,800	+ 5
Louisiana	600	652	— 8	40,315,975	26,041,250	+55
Arkansas	111	67	+ 66	9,352,725	9,492,450	— 1
Southeastern States	14	38	— 63	.....	.....	...
Eastern States	2,033	1,811	+ 12	31,937,550	30,380,600	+ 5
Michigan	453	409	+ 11	12,708,800	8,955,050	+42
Rocky Mountain States	207	216	— 4	15,823,550	13,643,250	+16
New Mexico	238	88	+170	15,316,650	13,749,450	+11
California	830	488	+ 70	166,458,754	146,414,487	+14
Totals	17,154	14,418	+ 19	800,684,254	734,397,437	+ 9

tinued decline of the nation's above-ground crude stocks in October. Offsetting the California situation, of course, was the fact crude production was held in strict restraint in the Mid-Continent and other parts of the country. Also tending to strengthen the situation was the fact October brought a decided improvement in control efforts in East Texas. In that area hot oil output late in October was down around 25,000 barrels daily, or to about one-half of the volume a month previously.

Crude oil stocks of the United States are indicated to have decreased substantially during October. As of October 26 the Bureau of Mines in its weekly report showed crude stocks aggregated 300,990,000 barrels, the report embracing 98 percent of total stocks, exclusive of those of producers. On September 28 the similar figure had been 305,050,000 barrels. Thus the stocks came down about 4,000,000 barrels in the four weeks ended October 26. Latest monthly report of the Bureau of Mines, covering all stocks, indicated 320,705,000 barrels on hand October 1, or about 29,000,000 barrels less than a year previously and about 40,000,000 barrels less than two years previously.

Gasoline Stocks Drop

The withdrawals from crude storage in October represented the meeting of actual market requirements and not artificial demand of excessive refinery operations. For the refineries really were operating under market needs, as requirements were partially met by withdrawals from gasoline storage. On October 26 the total stocks of finished gasoline aggregated 41,163,000 barrels, or nearly 2,000,000 barrels less than at the beginning of the month, it is indicated by the weekly reports of the American Petroleum Institute. The stocks on hand October 26 also were about a million barrels lower than a year previously. This smaller volume in storage was doubly encouraging since gasoline consumption has been running substantially higher this year than last. As compared with the 41,163,000 barrels of finished gasoline in storage October 26, there was on hand two years previously a total of 52,727,000 barrels, this year's situation therefore being especially favorable in the two-year comparison.

Crude Production Up

United States crude oil production in October aggregated 86,125,250 barrels, therefore averaging 2,778,234 barrels daily. That represented an increase of over 40,000 barrels over the previous month's daily output, despite a lower indicated demand for October. The October daily production was nearly 225,000 barrels above the Bureau of Mines estimate of indicated demand, as compared with a similar excess of approximately 125,000 barrels in September. Both the September and October excesses, of course, were due primarily to sharply higher production in California, as curtailment efforts proved ineffective.

Gains Over Last Year

Two important barometers of the oil industry's activity, drilling and production, show pronounced increases for 1935 over 1934. For the first 10 months of this year well completions were 19 percent above the similar period last year, while crude production showed a nine percent increase. While these increases would not necessarily be good omens in themselves, and might in fact be ill omens under certain conditions, they are favorable indicators in present circumstances. The higher rate of drilling represents, at least to some extent, the response of the industry to favorable markets. The higher production is justified, at least partially, by higher demand for oils. In the opening eight months of this year, the total demand for oils was 5.2 percent higher than last year's similar demand.

Drilling Generally Up

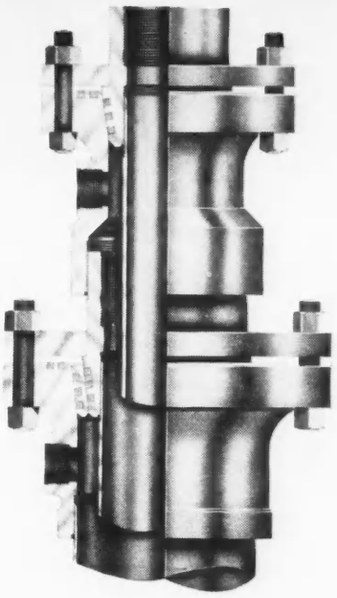
Increased field activity has been general throughout the country, only the Southeastern States, Louisiana, and the Rocky Mountain States outside New Mexico showing fewer completions this year than last year. New Mexico has had the most pronounced gain in drilling, completions for this year having been

United States Production

(Based on American Petroleum Institute estimates, which do not include oil which may have been surreptitiously produced.)

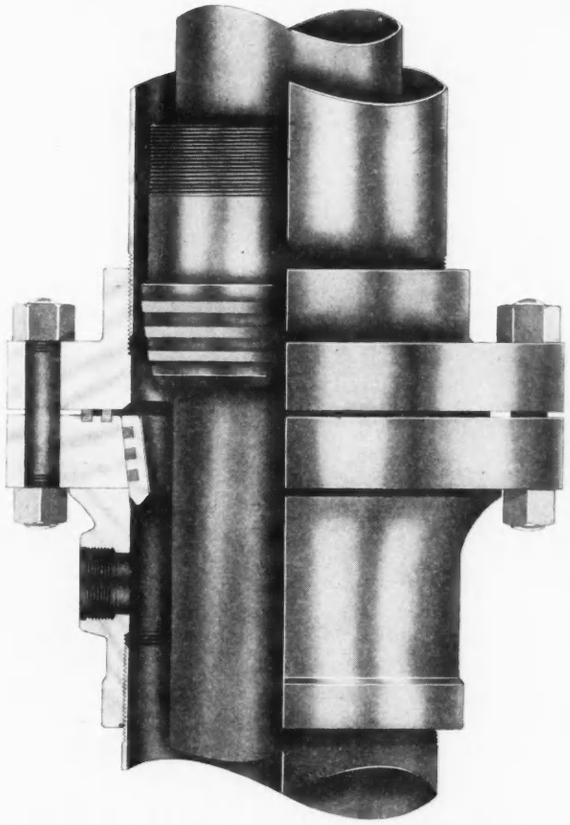
MONTH	Daily Average (Barrels)	Federal Estimate of Demand
October, 1933	2,392,900	2,338,500
November	2,267,243	2,338,500
December	2,266,426	2,210,000
January, 1934	2,233,505	2,183,000
February	2,239,070	2,183,000
March	2,339,950	2,282,800
April	2,420,950	2,366,200
May	2,575,380	2,366,200
June	2,588,100	2,528,300
July	2,560,550	2,530,300
August	2,475,300	2,449,300
September	2,431,950	2,341,700
October	2,364,150	2,325,800
November	2,375,400	2,340,300
December	2,414,600	[1]2,307,000 [2]2,460,300
January, 1935	2,500,850	2,460,300
February	2,521,250	2,526,100
March	2,568,800	2,520,300
April	2,559,750	2,527,300
May	2,601,350	2,561,200
June	2,695,100	2,651,000
July	2,707,150	2,660,000
August	2,676,250	2,600,600
September	2,737,750	2,613,000
October	[3]2,778,234	2,554,200

[1]December 1–16.
[2]December 17–31.
[3]Preliminary, subject to revision.



WHY WE SAY THE NEW DREADNAUGHT "HZ" SAFETY CASING HEAD IS

SAFEST of ALL



● **The sectional drawing above shows an inner string being landed through an "HZ" Safety Casing Head. In order to maintain a full open hole body, a tapered SOLID space ring is used to provide a seat for the hanger. Blow-out preventer adapter flange bolts down on two rings of ½" square hydraulic packing. After cementing, this adapter flange is replaced by a solid locking ring, which, with the weight of the casing, holds the string in the well. In running additional inner strings, adapter heads screw on the male threads of the lower hangers.**

1. **NO SPLIT RINGS OR STUFFING BOXES**—Casing is suspended by means of a tapered hanger which packs off on a tapered SOLID ring, or in the tapered bowl of the body. No split rings to pack off.

2. **FULL OPEN HOLE BODY**—Both drilling in and landing casing is done through blow-out preventers.

3. **METAL TO METAL SEAL IN EVENT OF FIRE**—Should fire destroy hydraulic packing in hanger and solid ring, effective seal is formed between machined surfaces of hanger and ring or body bowl.

4. **6000 POUNDS TEST PRESSURE**—Cast chrome nickel steel used throughout. Each head thoroughly tested in our plant.

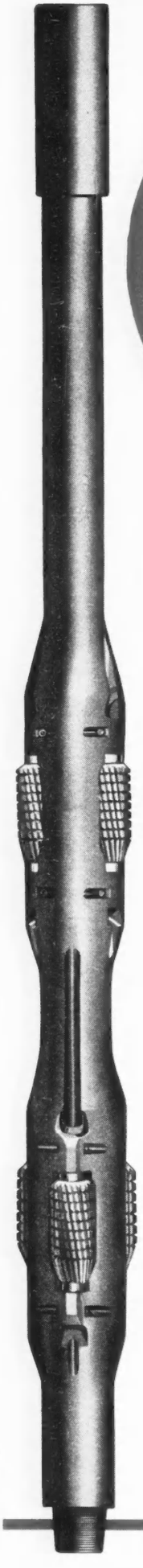
BEAUMONT IRON WORKS COMPANY

DNT

REED

ROCK BITS

LOWER COST PER FOOT OF HOLE DRILLED AND MORE HOLE PER DAY



REED
HEAVY DUTY
REAMERS

•

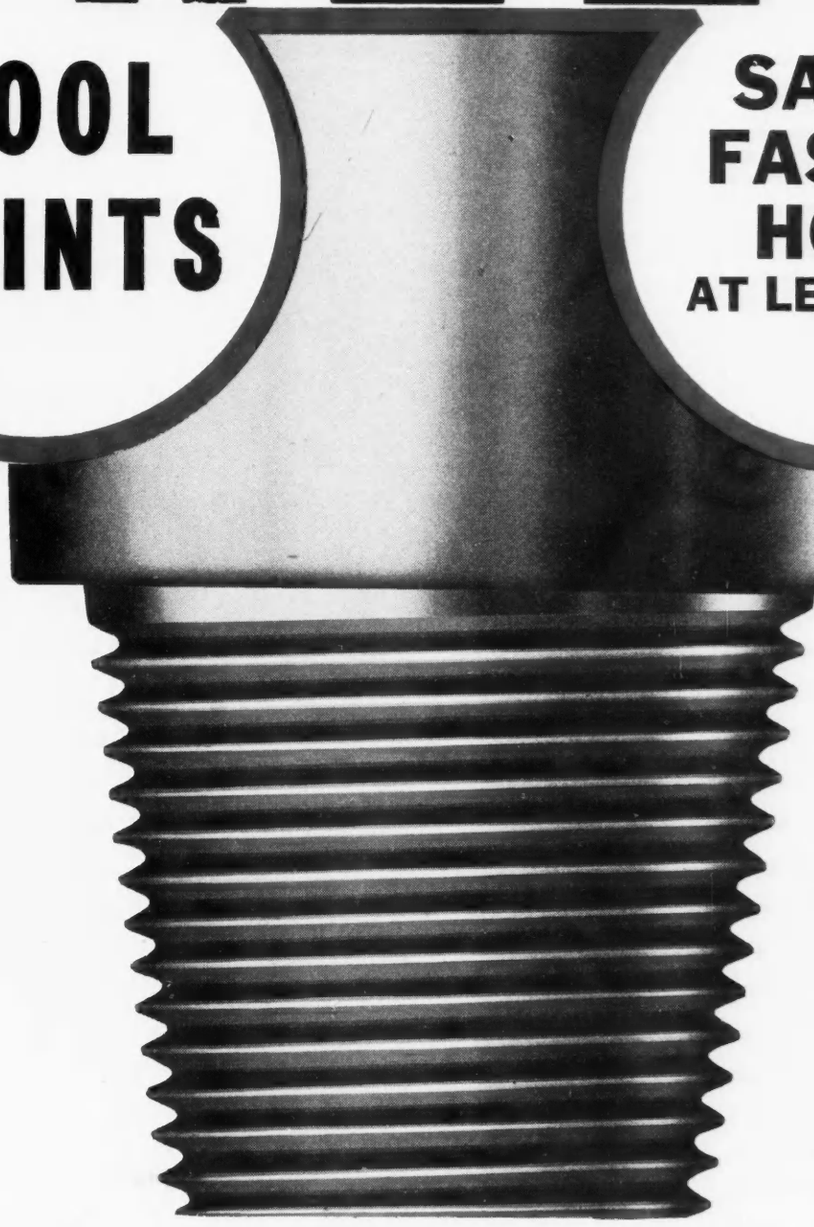
STRAIGHT - FULL GAUGE
HOLES COST LESS

REED ROTARY DRILLING TOOLS
SPEED • ECONOMY • DURABILITY

REED

TOOL JOINTS

SAFER FASTER HOLE AT LESS COST



FOR FULL DEPENDABILITY SPECIFY GENUINE

REED FULL HOLE TOOL JOINTS

MANUFACTURED BY
REED ROLLER BIT CO.

REED

MODEL "B"

CORE DRILLS

GIVE GREATER RECOVERY of LONGER - LARGER DIAMETER CORES

SOFT FORMATION CUTTER HEADS ARE INTERCHANGEABLE WITH HARD FORMATION HEADS ON THE SAME BARREL

REED ROLLER BIT COMPANY

nearly three times the comparable total of last year. California and Arkansas show the next largest gains in drilling, each having had nearly twice as many completions this year as last. Kansas shows a 39 percent increase, Oklahoma 19 percent, Texas 17 percent, the Eastern States 12 percent, and Michigan 11 percent. The pronounced increase for New Mexico is explained by the fact this year has brought discovery of several new fields, which in turn has stimulated wildcatting. The fewer completions this year in Louisiana are accounted for by the fact 1934 witnessed development of the important Bosco field, while this year has not had any similar unusual development.

Wells Completed in the United States

(Including oil wells, gas wells, and dry holes)

MONTH	Daily Average
January, 1933	30.0
February	30.6
March	26.6
April	25.5
May	25.6
June	21.1
July	23.1
August	30.7
September	36.5
October	40.9
November	46.9
December	47.7
January, 1934	39.7
February	38.1
March	40.6
April	44.0
May	50.7
June	51.5
July	53.6
August	51.3
September	43.2
October	49.6
November	49.9
December	48.3
January, 1935	47.9
February	49 6
March	48.8
April	58.5
May	*63.6
June	58.6
July	60.9
August	62.8
September	57.9
October	57.1

*Highest since July, 1930, when completions averaged 76.6 daily. Average dropped in August, 1930, to 52.4 and remained below that figure until July, 1934.

Motor Fuel Stocks

(American Petroleum Institute figures, as shown in weekly reports)

DATE	Motor Fuel Stocks, Bbls.
October 28, 1933	52,727,000
November 25	51,934,000
December 30	51,580,000
January 27, 1934	50,229,000
February 24	55,976,000
March 24	57,879,000

After March 24, 1934 figures shown represent stocks of finished gasoline, to be marketed as motor fuel, including natural gasoline which has been blended, and gasoline made from refinery still gases.

March 24	57,011,000
March 31	57,098,000
April 28	56,011,000
May 26	54,493,000
June 30	51,405,000
July 28	48,597,000
August 25	46,120,000
September 29	43,850,000
October 27	41,993,000
November 17	*39,892,000
December 1	40,831,000
December 29	43,969,000
January 26, 1935	47,888,000
February 23	54,399,000
March 2	55,654,000
March 30	56,388,000
April 27	55,097,000
June 1	53,180,000
June 29	50,007,000
July 27	48,157,000
August 31	43,787,000
September 28	42,976,000
October 26	41,163,000

*Low point of year.

Production Higher

Among the various states, Louisiana shows the greatest increase of crude production this year compared with last, the 40,315,975 barrels produced in the first 10 months of 1935 representing 55 percent more than the comparable 1934 output. Michigan shows the next largest increase, this year's figure of 12,708,800 representing a 42 percent gain. Next in order are Kansas with an 18 percent increase for this year, the Rocky Mountain States outside New Mexico with a 16 percent increase, California up 14 percent, New Mexico up 11 percent, the Eastern States and Texas up five percent each, and Oklahoma up two percent. Arkansas is the only state registering decreased production, and its output is down only one percent from last year's corresponding period.

NATURAL GASOLINE

Output at new peak for year due to Panhandle

THE increased operations at certain "stripper" plants in the Texas Panhandle were primarily responsible for the new high level of natural gasoline output for the year reached in September, 1935. This is shown by figures just released by the Bureau of Mines.

Operations in the Panhandle had been restricted because of the gas wastage law, but in September the daily output reached 650,000 gallons, or about 85 percent of normal production. Kettleman Hills and Oklahoma City also increased to raise the total daily average in September to 4,483,000 gallons, an increase of 333,000 gallons over the previous month of August and 180,000 gallons above the daily production of September, 1934.

Heavy refinery and export demands made material depletions in stocks of natural gasoline, the total on hand September 30 being 215,586,000 gallons as compared with 234,276,000 gallons on hand the first of the month. California was entirely responsible for the increase in exports, which reached 308,000 barrels in September, with shipments from other districts falling off. The heavier refinery demand was in line with the usual seasonal increase, while the movement to jobbers and retailers was very little changed from August. The Appalachian area moved more natural gasoline to jobbers and retailers than any other area, while California showed the largest amount both exported and moved to refineries.

Vapor pressure increased to 19.8 pounds in September, an increase of 0.9 pounds over August.

NATURAL GAS USE UP

1934 production shows 14 percent over 1933

HIGHER demand for industrial purposes in 1934 was largely responsible for gains over 1931, 1932, and 1933 in marketed production of natural gas. This is revealed by figures just released by the Bureau of Mines. Other favorable factors in comparing 1934 with 1933 include increases of 19 percent in total interstate and export movements, eight percent in number of employes in the industry, and almost five percent in the number of domestic and commercial consumers.

The total output in 1934 of 1,770,721,000,000 cubic feet was 215,247,000,000 cubic feet above that of 1933 and only 172,700,000,000 cubic feet under the peak year of 1930. This production came from 53,260 producing wells as of December 31, 1934, compared with 53,660 wells as of December 31, 1933, although the number of gas wells completed increased from 932 in 1933 to 1373 in 1934.

The producers received an average of 6.0 cents per thousand cubic feet to continue the downward trend in value which began in 1929. This decrease in average well value conformed with the decline in the largest producing state of Texas, where the consumption of vast quantities of two-cent gas for field purposes and in carbon black manufacture lowers the national average, which reaches well over 20 cents per thousand in some states. The average value of the entire production at points of consumption also declined, dropping from 23.7 cents per thousand cubic feet in 1933 to 22.3 cents in 1934, with the higher average price paid by domestic and commercial consumers being more than offset by the decline in the average industrial price.

In 1934 the total consumption of 1,764,988,000,000 cubic feet (obtained from 1,770,721,000,000 cubic feet of production plus 68,000,000 cubic feet imported from Canada minus 5,801,000,000 cubic feet exported to Canada and Mexico) was distributed as follows: 554,542,000,000 cubic feet, or 31 percent, for field purposes; 288,236,000,000 cubic feet, or 16 percent, to domestic consumers; 91,261,000,000 cubic feet, or five percent, to commercial consumers; 229,933,000,000 cubic feet, or 13 percent, to manufacturers of carbon black; 127,896,000,000 cubic feet, or seven percent, to electric public utility power plants; 79,965,000,000 cubic feet, or five percent, to petroleum refineries; 27,331,000,000 cubic feet, or two percent, to cement plants, and 365,824,000,000 cubic feet, or the remaining 21 percent, to other industrial uses. Compared with 1933, these data indicate chiefly gains in the ratios for carbon black and refinery consumption, balanced by a decrease in the ratios for domestic consumption. Increased shipments in 1934 through the established systems rather than the operations of new lines was responsible for the larger proportion of total natural gas consumption moved in interstate and foreign commerce. This movement rose from 346,810,400,000 cubic feet in 1933 to 414,183,000,000 cubic feet in 1934, an increase of 19 percent.

WHAT ABOUT FLEXIBILITY?

Because of construction design, the flexing life of Maltese Cross Cord Belting is exceptionally high over both small and large diameter pulleys.

WHAT IS THE STRENGTH CAPACITY OF MALTESE CROSS CORD BELTING?

This belting has a tensile strength with a safety factor far in excess of that necessary for the heaviest duty service.

IS THERE REALLY LOW STRETCH?

Very definitely, yes. If properly engineered for the drive, Maltese Cross Cord Belting will never stretch beyond the limits of the average take-up.

FOR HIGH TENSILE STRENGTH, FLEXIBILITY and LOW STRETCH

MALTESE CROSS
ENDLESS CORD BELTS

★ Maltese Cross Cord Belting is made with an internal carcass of cord fabric plies consisting of multiple plies of cord fabric, frictioned and skim coated with a thick layer of pure gum rubber. The plies are laid parallel in the belt, in a lengthwise direction, and are embedded in a cushion of rubber compounded to resist shock, heat and aging.

★ The construction is designed so the cord section will absorb most of the pulling load on the belt in service. The envelope plies assist in absorbing shock loads and act as a wear sheet to resist frictional pulley wear and protection for the edges of the belt against moisture. Available in different grades for different service needs.

HEWITT
RUBBER CORPORATION

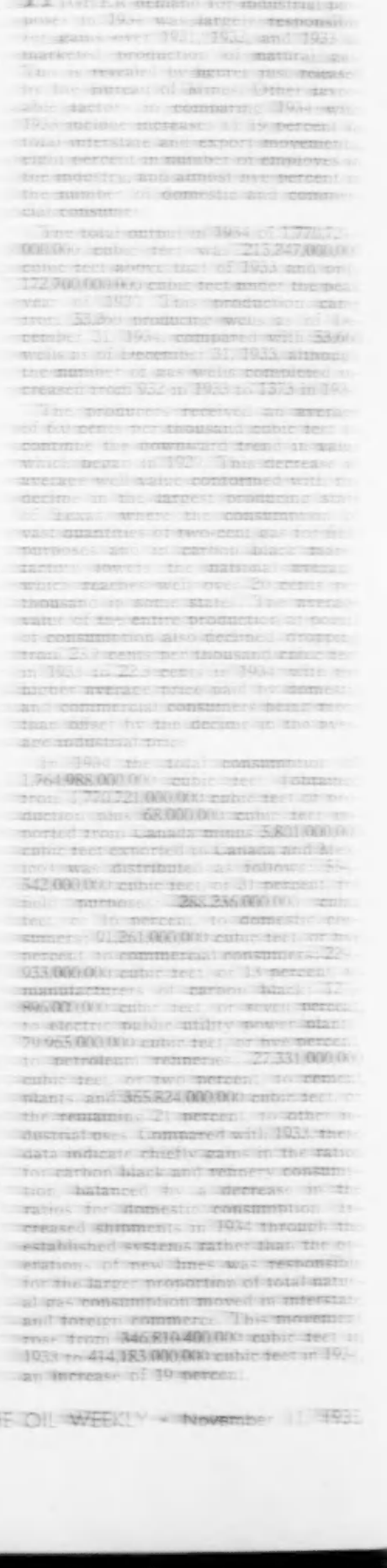
BUFFALO, NEW YORK

NORVELL-WILDER SUPPLY COMPANY
JARECKI MANUFACTURING COMPANY
BRIDGEPORT MACHINE COMPANY
DISTRIBUTORS

HOSE
CONVEYOR AND TRANSMISSION BELTS
PACKING

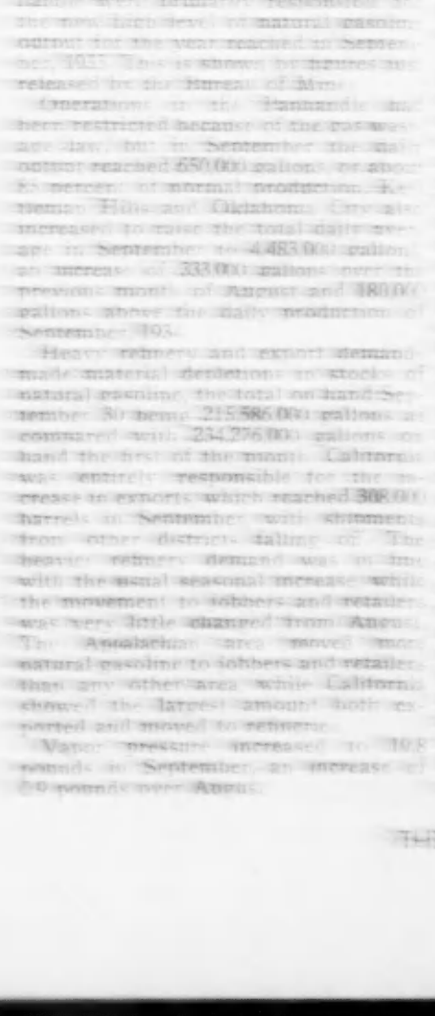
NATURAL GAS USE UP

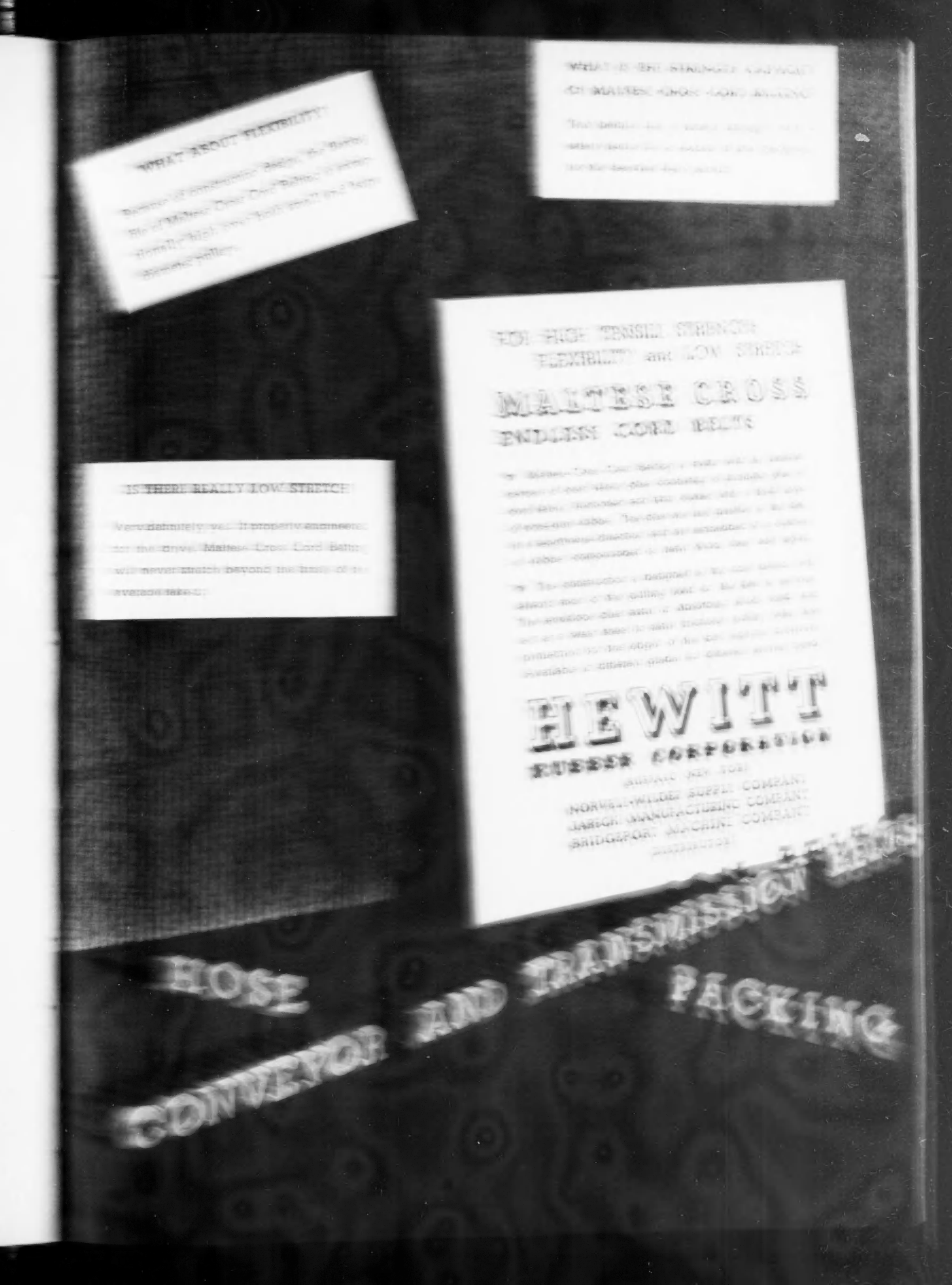
1934 production shows 14 percent over 1933



NATURAL GASOLINE

Output at new peak for year due to Panhandle




MATTESE CROSS
HEWITT
HOSE
CONVEYOR AND TRANSMISSION BELTS
PACKING

It never won a beauty contest . . .

BUT THIS RIDGID WRENCH HAS WON HUNDREDS OF THOUSANDS OF USERS

■ The non-professionals buy nice shiny pipe wrenches.

■ But the men who work with wrenches buy for performance—and that's why the sale of RIDGID's keeps growing year by year.

■ You who "treat 'em rough" are the ones who appreciate the RIDGID unbreakable housing. No more breaking or warping, wrenches out of commission, expense of repairs.

■ You who have constant use for your wrenches like the accurate pipe scale on the RIDGID and the adjusting nut that *always* spins easily in open housing in any size, 6″ to 60″.

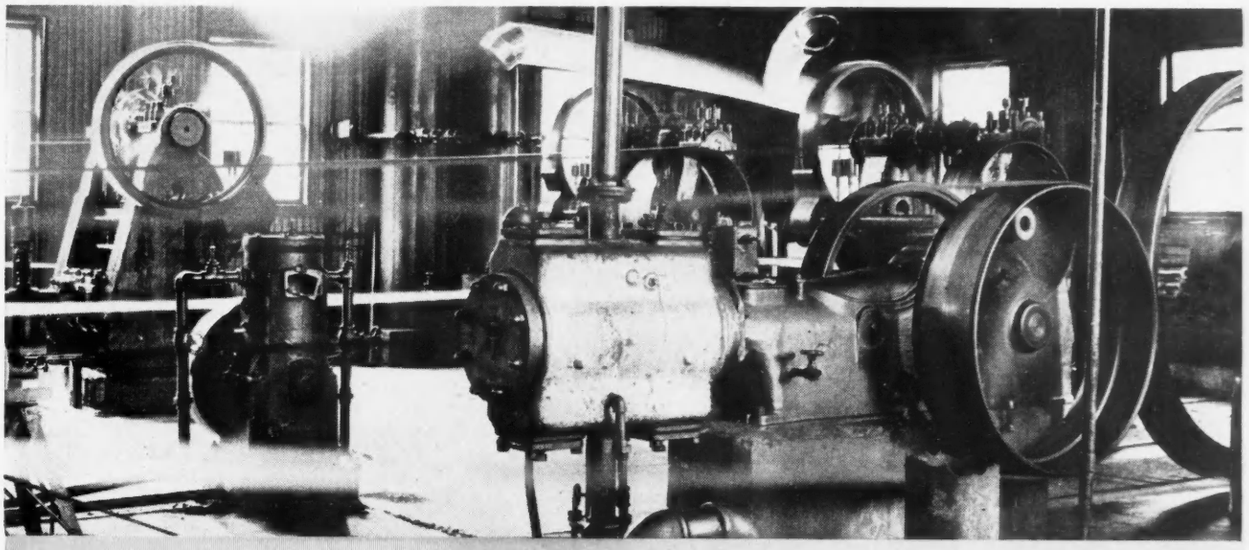
■ You know the safety value of the powerful I-beam handle of double-strength Super-X alloy metal and replaceable jaws of chrome molybdenum tool steel with their instant grip and let-go, that you *can't* lock on a pipe.

■ Performance—not beauty. If you want to know what it really means, ask your Supply Store for a RIDGID.

The Ridge Tool Company, Elyria, Ohio, U.S.A.

RIDGID

Pipe Wrenches (Regular, End and Compound Leverage) **Cutters, Threaders, Vises**



A Sloan & Zook power plant with air compressor for blowing water producing well in foreground, and water pump to left background.

Water-Flood Practices

IN PENNSYLVANIA VARY BUT ALL FOLLOW SAME BASIC PRINCIPLES

By JOHN C. ALBRIGHT

THE cost of flooding a property with water to obtain the maximum amount of ultimate recovery varies considerably. With some of the smaller producers, who do not have access to research laboraties, the cost per barrel lifted under a flood averages higher than that produced by others who depend to a large extent upon reports from their engineers. The average cost when contemplating a flood is in the neighborhood of $3,000 per acre, everything being considered; surface equipment, drilling new wells, both for intake and production purposes, and new lead lines and rearranging of pumping powers.

The methods of arriving at these requirements vary as to the ideas of those interested, but are substantially alike in most instances. Coring is being done to a much larger extent than heretofore, which adds to the expense of flooding, but provides information upon which to base the estimates of ultimate recovery. Drilling, or rather, redrilling a flood property is becoming more general as more information is accessible, and the majority of the producers have concluded that the "five spot" will result in greater returns than any other method of production.

Some of the producers hold to the theory of "delayed flooding," which means that the water wells are all drilled prior to the time when the producers are drilled. In the interim, the water intake wells are equipped and pressure is applied to the sands. In some instances a period of a year elapses before producing wells are drilled in the flooded area, and in the meantime, the force of the water is such that a large area has been washed clear of oil already, and the crude has been pushed to the middle of the five-spot location. The peak production is obtained much sooner in this manner than if the producing wells are drilled at the same time the intake wells are put down.

Completion Methods

In a majority of cases, the water wells—meaning the input wells—and the producers are completed in a like manner. Small diameter casing is set on the shales above the producing zone, but in the water wells tubing is run into the hole with a packer placed so it will take hold just above the oil zone, and after being set it is further protected by cementing. By cementing the tubing becomes a fixture in the well, and is permanently sealed from both above and below the point where it is set. As pressures vary from a hundred pounds at the top of the casing to as high as 1600 pounds in others, it is obvious that the tubing must be sealed properly to prevent the escape of water into upper sands, or be dissipated where it will not accomplish the desired results.

In some instances, water is injected into the sand

beds at two separate points, such as in a well where the permeability is satisfactory in the upper part and lower parts of the beds, but with numerous shale partings and high permeability in the center. When this is accomplished, the two-inch tubing is cemented in the regular manner, and afterwards a string of one-inch tubing is run. The latter string is equipped with a packer below the upper desired sand, and one below the shale partings, thus blanking off a section, and water is introduced in the lower parts of the sand. This procedure is somewhat unusual, but has its merits, if carefully done. In some instances, the two-inch tubing is equipped with perforations made at different points, usually in the upper as well as the lower portions of the sands to be flooded. Water is thereby applied to the face of the sand body in two zones.

Equipment at the power stations vary considerably, depending upon the time in which they were installed. The older stations were equipped with pumps designed several years ago, and are either directly connected to gas, or oil engines, or driven by belts running from a jack shaft.

Pressure Stations

Sloan & Zook have equipped the majority of their pressure stations with flywheel balanced gas engines, which through belt pulleys operate a jack shaft. All power is obtained from the jack shaft for the various machines needed in this class of operations. Horizontal two-cylinder gas engines are used by this company. They are set in pairs, so that one may be used for a spare in an emergency. Depending upon the amount of water needed for a particular flood is the number of water pumps installed in the pressure room. Where water is produced on the lease, an air compressor is used to flow the water.

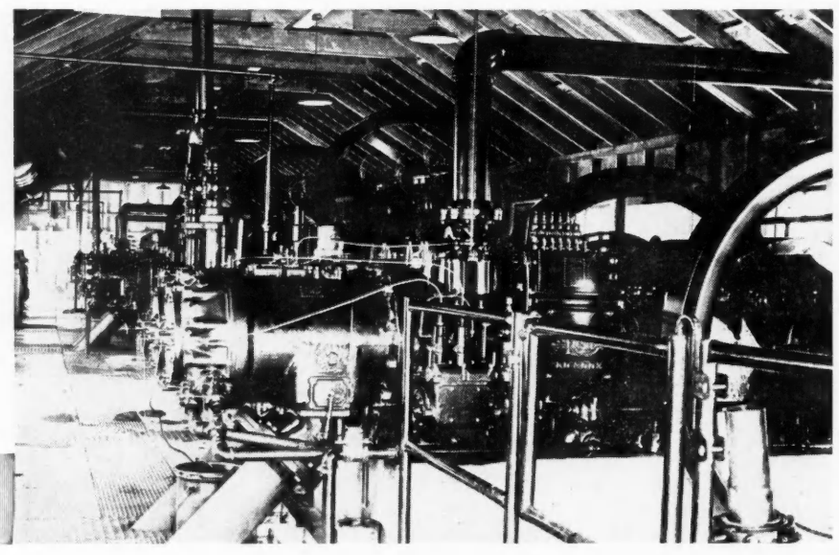
Water in most instances is not considered sufficiently clean and free from suspended matter, or matter in solution, to use it as it is produced from the deep wells. Practically all operating companies use treating plants built along about the same lines. Lime is used for the treating agent. This treatment is familiar to the majority of oil field men, and the water, after being permitted to settle in adequate tankage, is pumped through sand filters to remove all possible traces of sediment. Centrifugal pumps are utilized ordinarily to transfer the water from the settling tanks through the filters and thence to the working tanks. The high-pressure pumps take suction on the working tanks and force the water under high pressure to the distributing system in the flood.

Sloan & Zook use vertical triplex, outside piston packed pumps operating at around 700 pounds pressure at the delivery side. On some of this company's leases, where the wells are considerably deeper than the average, the pump pressure is reduced. The object is to obtain a certain predetermined pressure on the face of the sand in the intake well, and if one is considerably deeper than others, the input pressure is reduced accordingly. Owing to the rough terrain encountered in sections northwest of Bradford, wells within only a few locations of each other can be several feet difference in depth.

Forest Oil Corporation and its subsidiaries, use direct-driven triplex pumps to handle water on flooded properties. These pumps are connected to each side of a twin-cylinder, horizontal full-Diesel engine. Clutches are provided in the connecting shafts so that if one pump needs attention, it may be cut out of service and yet permit the other to be operated. In Forest Oil Corporation's flood No. 9, three 120-horsepower twins are used, as well as two 40-horsepower engines.

In a newer installation placed in service by Forest Oil Corporation, the pumps are electrically driven multi-stage centrifugal units. Several small floods are thusly equipped, with water supplied to them from a common treating plant. Lease men operate these more or less isolated flood power plants. The pumps are set with the shaft vertically, with the impeller case in a well for convenience and to conserve space, and also to guard against freezing during the winter months.

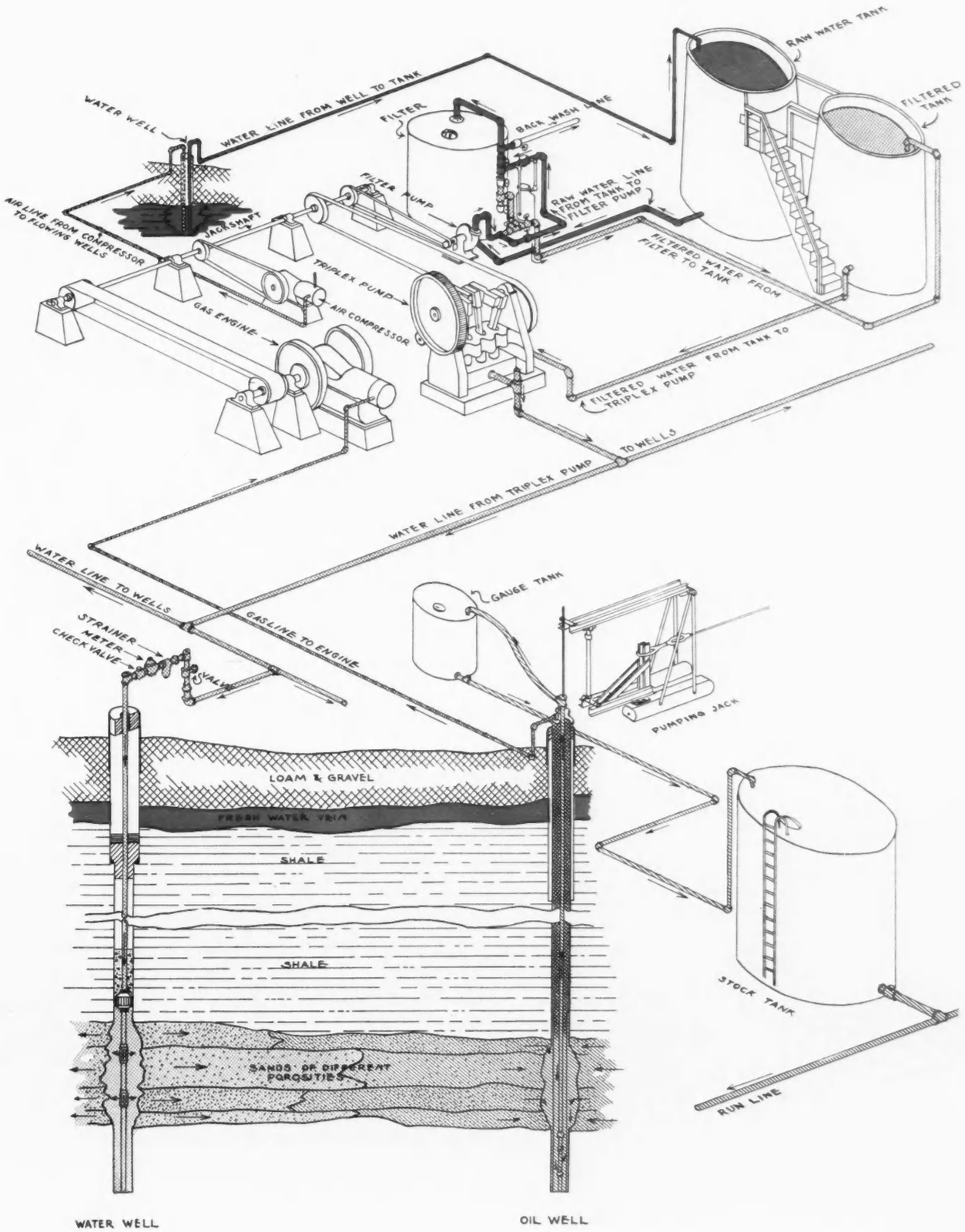
The amount of water that a given intake well will receive depends upon the permeability of the sand and the pressures available. The purpose of injecting water into the four wells comprising the five spot flood is to drive the oil from the sand surrounding the intake wells to the centrally located oil pro-

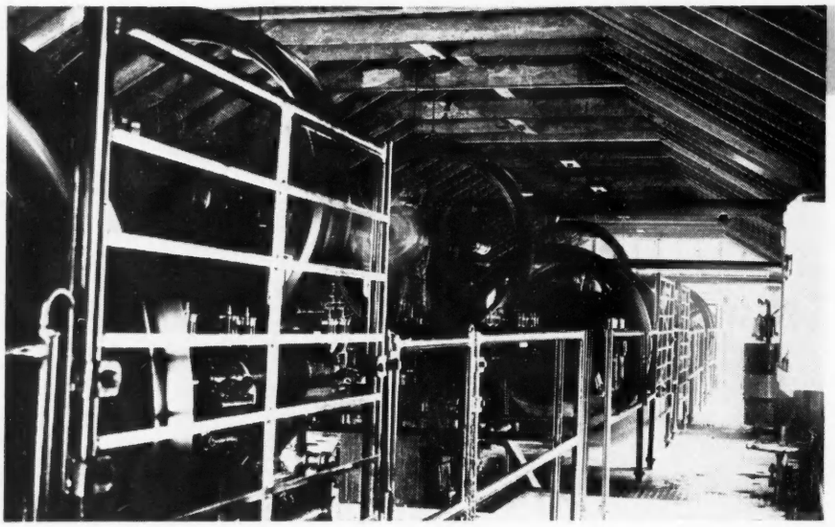


Diesel prime movers for pumping water on Niagara Oil Company flood No. 9.

Method of Operating a Water Flood Process in the Bradford, Pennsylvania, Field

—Courtesy The Sloan and Zook Company.





A water flood pump room of Niagara Oil Company's (Forest Oil Corporation subsidiary) near Bradford.

ducer. It is generally conceded that if excess pressures are maintained upon the sand, the water will travel through the sand faster than it will remove the oil, and by so doing oil will be trapped and never recovered. Most of the petroleum engineers engaged in water flooding admit that there is a possibility of more permeable spots in the sand beds than shown by the cores, which may permit the water to drown out the producing beds and not remove the recoverable oil.

The majority of the intake wells are not noticeable, except as shown by a frost box covering the meters, strainers and check valves at the well head. The amount of pipe protruding above the ground is limited to the bare amount necessary for connections, so sub-zero weather will not affect the operation of the flood. Practically all flood operators have standardized on a similar type of injection well, so far as surface equipment is concerned.

Oil Production

Production of oil varies with the flood, the attitude of the producer towards tubing and rates of strokes per minute. Some years ago, many wells near Bradford were equipped with individual pumping heads, utilizing the usual steam unit for power, except that compressed air was piped to the wells instead of steam. Central powers are still in the majority, with rod lines radiating from the band wheels to the wells as they were used before flooding was begun. Electrical power is increasing in popularity.

In most cases, tubing is set near the bottom of the shot hole, and the oil is removed as fast as it appears from the face of the sand. Some powers are operated full time, while others are hooked off and on, to give the oil time to accumulate in the bottom of the hole.

Individual wells used for intake purposes are always equipped with water meters, and they are read at varying times; some companies making it a practice to obtain daily readings, while others are interested only in the cumulative amount introduced during a period of about a week. The production pumped from the centrally located five spot oil well is usually gauged in the common tub tank, so that both the water produced and the oil can be measured. In this manner, the production curve can be plotted showing at which time the amount of water exceeds the oil.

Conflicting reports are available showing the amount of oil produced per acre from flood properties, some of which paint a rosy picture of the method of recovering oil, while others are at hand which are somewhat pessimistic. Not all the properties under flood in Pennsylvania will produce the maximum amount of oil that is shown by the core analysis, because, perhaps, of unknown conditions, but a safe average will be in the neighborhood of 4500 barrels per acre. This figure depends upon the permeability of the sand being flooded, the thickness, and the content per acre foot. With a thick sand, the maximum in Pennsylvania may be 75 or 80 feet, and even more, with a high oil content, it is reasonable to expect a large recovery, provided that the water is introduced so it will enter the full bed of sand stone in an even drive.

Sloan & Zook estimate a flood property to have an effective life of about 54 months, with the peak of production coming within the first eighteen months of that time. As a properly planned flood will cost on an average of about $3000.00 per acre to develop and equip, it is apparently necessary to know in advance something about the amount of oil that may be produced. Oil selling in Pennsylvania for $2.00 per barrel is one thing, while oil in the Mid-Continent at $1.00 is something else. The cost in one district will approximate another, but the profit is governed by the price of the product, all other things being equal. If, for instance a property, such as Forest Oil Company's Summit lease, which will produce approximately 6200 barrels per acre, will show a gross income of $12,400.00 per acre. Deducting the original cost of $3000.00 per acre for the development and necessary equipment, there remains $9400 as income. If the oil was selling at $1.00 per barrel, the gross income would be only $6200.00 per acre, from which the original development and equipment cost would have to be deducted the same as before; $3200.00 per acre gross profit is something different from $9400.00, which should cause anyone interested to thoroughly investigate a property before attempting to spend the great amount of money necessary to properly operate a flood.

A. P. I. Standardization + F-R Dependability

In recent years the oil industry has made long, steady strides toward the standardization of supplies and equipment. This movement has of course been headed by the American Petroleum Institute.

And a parallel forward movement toward DEPENDABILITY in supplies and equipment has been headed by the world's foremost manufacturers to the oil industry, concentrating their facilities and products at Frick-Reid Stores in Eastern, Mid-Continent and Gulf Coast fields.

FRICK-REID
SUPPLY CORPORATION
Pittsburgh, Pa. . . . Tulsa, Okla.

Axelson Manufacturing Company
Steel and Reading Genuine Puddled Wrought Iron Sucker Rods—Working Barrels.

Beaumont Iron Works Company
Rotary and Pumping Equipment.

Blaw-Knox Company
Gas Cleaners — Steel Grating — Tracifiers.

Donovan Boiler Works
Oil Country Boilers.

Jones & Laughlin Steel Corporation
Tubular Goods.

Linear Packing & Rubber Co., Inc.
Packing for all needs.

Midwest Piping & Supply Co., Inc.
Welding Fittings.

National Transit Pump & Machine Co.
Steam Pumps — Compressors.

Raybestos-Manhattan, Inc.
Raybestos Rotary Brake Lining.

Reading Iron Company
Reading Genuine Puddled Wrought Iron Tubular Goods.

Joseph Reid Gas Engine Company
Gas and Diesel Engines — Pumping Powers.

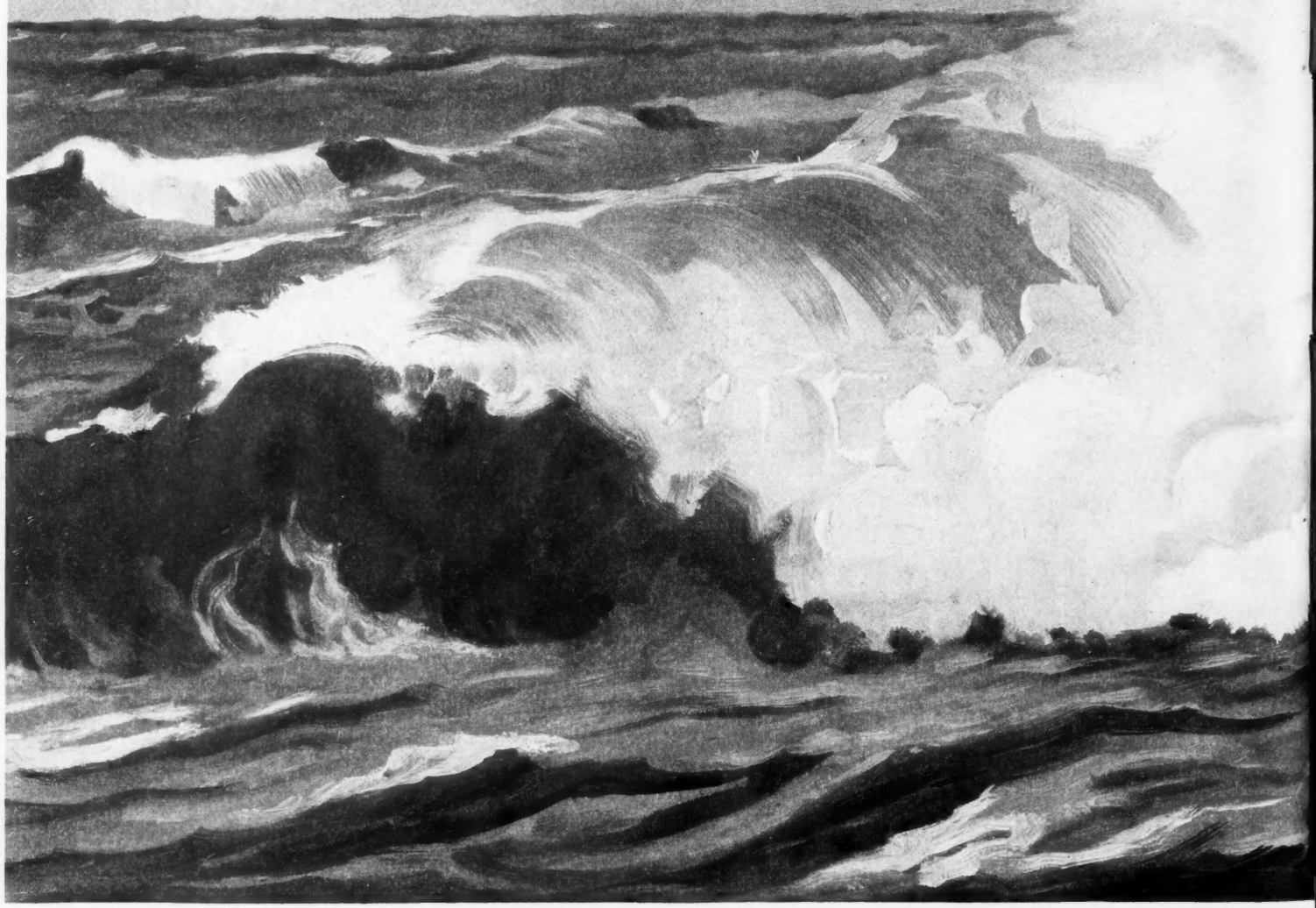
Republic Rubber Company
Transmission and Conveyor Belting — Mechanical Rubber Goods.

John A. Roebling's Sons Company
Wire Line — Gas and Electric Welding Rods.

Walworth Company
Valves — Fittings — Tools — Lubricated Plug Valves.

Whitlock Cordage Company
Manila Drilling Cable — Bull Ropes — Cat Lines — Waterflex Cordage.

The Wave of Acceptance



IN 1931, casing was first produced by the A. O. Smith Corporation. On December 5, 1931, the first string of slip-joint casing was run welded in Lloyd No. 90 at Ventura for the Associated Oil Company.

The Wave of Acceptance was forming, soon to swell to great surges before the powerful drive of another great advance in steel—just as it did for those other great advances so important to the oil industry:

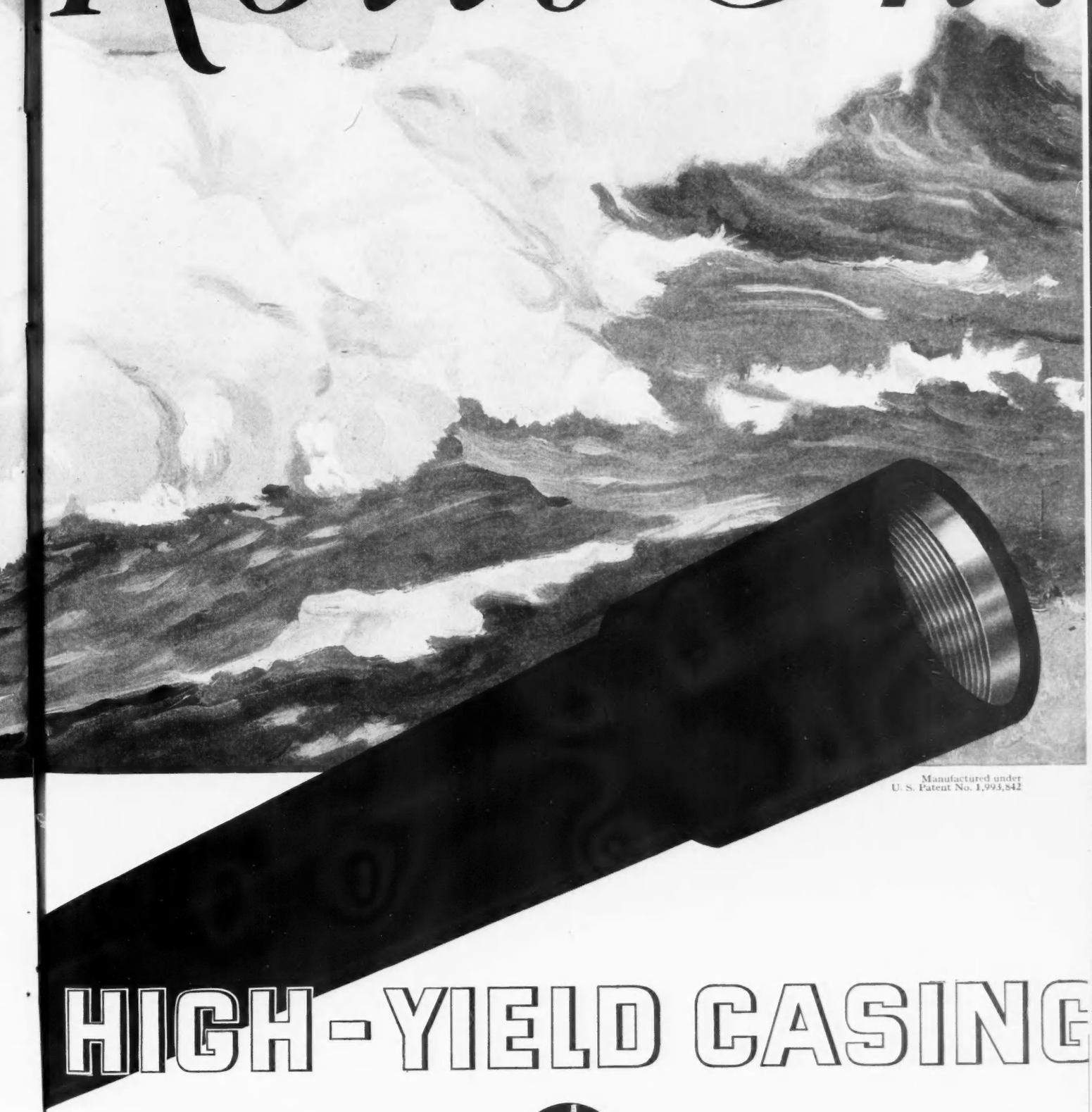
Smithwelded Cracking Stills in 1925

Smithwelded Line Pipe in 1927.

A. O. SMITH CORPORATION, Milwaukee, Wisconsin

Making Steel work for you as it never did before

Rolls On!



Manufactured under
U. S. Patent No. 1,993,842

HIGH-YIELD CASING

MORE FOR YOUR MONEY — HIGH YIELD CASING — LOWER-COST WELLS . . .

© A. O. Smith Corp., 1

Absolute Gravity Survey

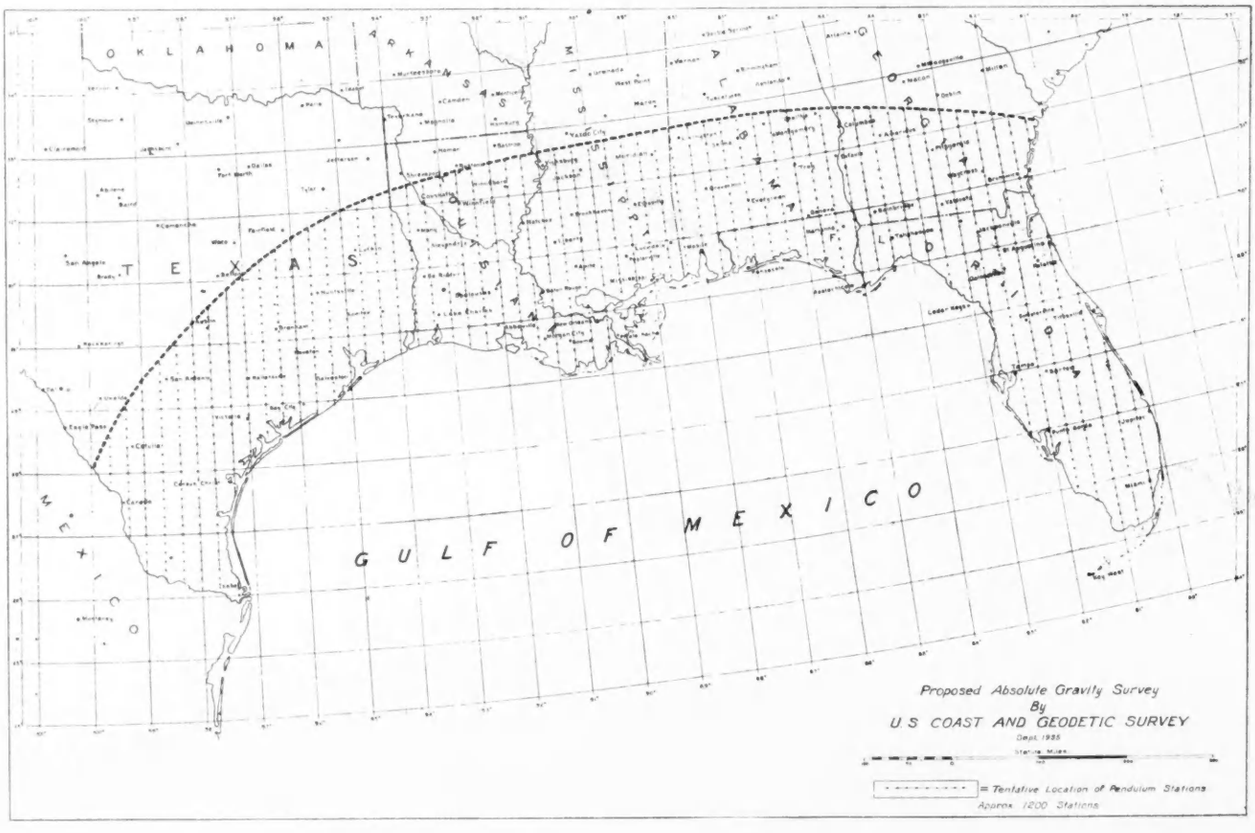
IN GULF COAST STATES WOULD BE OF GREAT VALUE TO PETROLEUM INDUSTRY

By WARREN L. BAKER, Editor

A PROPOSAL that an absolute gravity survey be made of all states along the Gulf of Mexico by the United States Coast and Geodetic Survey is under consideration now. The proposed survey is of interest to the oil industry because of the valuable assistance it would render. The largest portion of Texas and Louisiana, in which is centered the nation's greatest oil activity, probably would be included. Moreover, it is not improbable that the present Texas and Louisiana activity will spread eastward into Mississippi, Alabama and Florida; in which case the proposed work would be of even greater benefit to the oil industry.

In addition to a vital academic interest, this proposed gravity survey has two main objectives of economic importance that appeals to geologists and geophysicists. It is proposed to erect monuments or bench marks, with elevation above sea-level, at intersection of longitude and latitude lines at one degree intervals. It is further planned to determine the value of absolute gravity at approximately 1200 points.

Those interested in accurate mapping, such as the petroleum, sulphur, and other industries, know the economic value of bench marks and should be in favor of the proposed survey to locate and place accurately approximately 75 monuments or bench marks. The value of such a network of absolute gravity stations can be estimated only in proportion to the application of this information by geologists and geophysicists. The absolute gravity stations will serve as a basic network in the Gulf Coast States for more accurate regional interpretations of existing gravity surveys and those to be made in the future. Geophysicists as a whole but more particularly those interested in gravity work, know how well this information can be applied. The absolute gravity stations will serve as a basic network in regional geologic study by geologists. The principles of isostacy can then be applied to certain problems of



Yes!

These Bearings adapt themselves and continue to be the approved standard now as for many years, in the heaviest oil country uses. Specify the equipment in which they are used!

For

Winches
Swivels
Clutches
Spudders
Sand Reels
Rotaries
Draw Works
Crown Blocks
Pumping Units
Portable Hoists
Traveling Blocks
Portable Draw Works

★ Hydril Company ★
★ Oil Well Supply Co. ★
★ The Wheland Company ★
★ Oklahoma Iron Works ★
★ Baash-Ross Tool Company ★
★ Keystone Driller Company ★
★ T. T. Word Supply Company ★
★ Turney Draw Works Company ★
★ Star Drilling Machine Company ★
★ Lucey Manufacturing Corporation ★
★ Lee C. Moore & Company, Inc. ★
★ Cameron Iron Works, Incorporated ★
★ Emsco Derrick & Equipment Company ★
★ Portable Rig Company, Incorporated ★
★ Federal Machinery & Supply Company ★
★ Hopper Machine Works, Incorporated ★
★ Bowlus Engineering Company ★
★ Allsteel Products Manufacturing Company ★
★ Doheny Stone Drill Company of Texas ★
★ American Manufacturing Corporation ★
★ Western Enterprise Engine Company ★
★ Franklin Valveless Engine Company ★
★ Regan Forge & Engineering Company ★
★ Lufkin Foundry & Machine Company ★
★ National Supply Company of California ★
★ American Well & Prospecting Company ★
★ Marion Machine Foundry & Supply Company ★
★ International Derrick & Equipment Company ★

They all use

AMERICAN ROLLER BEARINGS
AMERICAN ROLLER BEARING COMPANY, PITTSBURGH, PA.

The STANDARD *for* HEAVY DUTY

geology of the Gulf Coast States, which will be of valuable importance to geologists.

The accompanying map indicates, in a general way, the location of approximately 75 monuments in the area indicated on the map, as are the approximately 1200 absolute gravity stations.

Since it is necessary to have the exact location of each of the absolute gravity stations and the elevation of each station, much of the work of surveying, running levels, location of the monuments would be prerequisite to the location and calculation of each absolute gravity station.

The cost of the accurate location of the 75 or more bench markers, running of levels, and placing these monuments is estimated at between $500,000 and $750,000.

The United States Coast and Geodetic Survey has two types of pendulums that may be used to determine the value of absolute gravity. One type requires the time of a whole day to make a station. This type of pendulum equipment has proved very satisfactory and reliable for the survey's demands. The other type requires about one tenth the time, but as yet it has not been used sufficiently by the Geodetic Survey in actual field work to prove its practical reliability. If the latter type pendulum proves to work satisfactorily the actual time of obtaining the absolute gravity stations will be decreased considerably. For example, with one crew of the first type of pendulum it would require five years to complete the survey. If five crews were in the field it would require one year. This estimate depends upon having the location of stations, running of level work in advance of using the pendulum. It is estimated the cost of the pendulum work would be between $50,000 and $60,000.

Already a number of engineering and professional organizations are studying the possible value to be procurable from the proposed absolute gravity survey. In most cases these organizations have referred the proposal to special committees with power to act upon them.

The American Society of Civil Engineers at its Birmingham meeting, the American Institute of Mining and Metallurgical Engineers at its Houston meeting, and the American Association of Petroleum Geologists at its Mexico City meeting, all referred resolutions of endorsement of the absolute gravity survey to their respective executive committees.

ON this and following pages appear statements by several prominent geologists and geophysicists on the value that could be derived from an absolute gravity survey of the Gulf Coast states, as has been proposed. Believing the proposal advantageous to the industry, THE OIL WEEKLY welcomes the opportunity to publish these exclusive statements.

Basic Survey Data Essential to Industry

By WILLIAM BOWIE

Chief, Division of Geodesy
U. S. Coast and Geodetic Survey

THE Census Bureau was organized many years ago to collect data at definite intervals regarding population, manufacturing, farming and many other things. It was considered essential that our people should have certain facts at hand in order that they might plan their activities and carry them out with some degree of success.

The Coast and Geodetic Survey was organized more than a hundred years ago to make charts of our coasts to aid navigation. Later it was charged with making control surveys and gravimetric surveys over our area.

While the U. S. Geological Survey was organized many years ago to carry on geological investigations in this country, it also engaged in topographic mapping in order to obtain information needed in the geological investigations.

After a hundred years or more of surveying and mapping, we are one of the most poorly mapped of the well-organized countries of the world. Funds have not been made available in sufficient amounts. While 47 percent of the area of the United States is covered with topographic maps, only about half of those maps are adequate for present day uses. So we thus see that 75 percent of our area has no maps or only poor ones.

The Coast and Geodetic Survey has received allotments of funds during the past few years for relieving unemployment and with those funds a great advance has been made in extending arcs of triangulation and lines of levels over our country to furnish the latitudes, longitudes and elevations of tens of thousands of monumented stations, and the bearings and distances between contiguous stations. But control surveying is only partly done. It should be continued in a vigorous manner. There are very few operations by scientists, engineers and others that do not depend upon a knowledge of position, elevation, distance, direction and slope. All these can be obtained from the geodetic control survey data.

In addition we need the topographic map based upon the control surveys. The topographic map, if properly made, will contain more information that is absolutely essential to industry than could be set forth in hundreds or thousands of printed pages. When one reads a book about an area he is very apt to have a confused picture of just what it is and what it contains; but with the topographic map on his desk, he can get very quickly complete knowledge of the terrain and the cultural features that is so valuable in carrying on work of many kinds.

The topographic map might be likened to a census; it shows many facts and many of those facts do not change. Of course, as an area develops cultural features change as some are added or some are destroyed. The map to be of the greatest value should be kept up to date by frequent revisions, but when once made accurately it is really serviceable for many years to come. The contours rarely change, the rivers and streams change only slowly, the rail-

"YOU'LL SAVE MONEY WITH

AMERICAN STEEL & WIRE COMPANY
TIGER BRAND WIRE LINES

REG. U. S. PAT. OFF.

..AND THE REASON IS NO SECRET"

"WHY am I so certain? Well—you see I've not only used Tiger Brand Wire Lines for every use from drilling to production—but I've had an opportunity to see how they're made. The American Steel & Wire Company, you know, has been supplying Wire Lines to the oil fields for many years. Their engineers have studied every angle of the problems we're up against—and they've designed a type and size of line to meet our every need. In addition—the control of raw material from mine to manufacture means the kind of quality that saves us many dollars on the job. Yes—you'll save money with Tiger Brand Wire Lines—and the service back of them will save you time and trouble."

AMERICAN STEEL & WIRE COMPANY

208 S. LA SALLE STREET, CHICAGO • • EMPIRE STATE BUILDING, NEW YORK

Offices in All Principal Cities

Pacific Coast Distributors: Columbia Steel Company, Russ Building, San Francisco

Export Distributors: United States Steel Products Company, New York

United States Steel Corporation Subsidiary

roads and routes for highways change only slightly. Therefore, an accurate topographic map does have permanent value even though it may not be frequently revised.

In spite of the great value of maps and geodetic surveys, the work does not go forward as rapidly as it should. But there is a growing sentiment throughout the country in favor of mapping our area and I feel confident that this sentiment will be translated into action at no distant date.

Late in 1934 the Federal Board of Surveys and Maps prepared a plan for the completion within ten years of the topographic mapping of the country with the necessary horizontal and vertical control. This plan was endorsed by the National Resources Board, now called the National Resources Committee. It was then transmitted to President Roosevelt. He in one or more interviews with representatives of newspapers expressed a great interest in having the country mapped as rapidly as possible. The national mapping plan appeared in full in the February, 1935 number of *Civil Engineering*. It is hoped that steps may be taken that will lead to the initiating of this program and its carrying forward to completion.

Not only are topographic maps and geodetic surveys of value to our people, but there are other surveys that should be made. Geophysical surveying should be carried out on a nation-wide plan to furnish fundamental data that will enable those engaged in the petroleum, gas and mineral industries to carry on their work more successfully and with less waste. Of course, the topographic map is essential in these lines. It gives the configuration of the ground, the elevations, slopes, positions, and distances, and enables the geologists and geophysicists to make a topographic map of any stratum that is of importance to them. It would be a wonderful achievement if we could obtain also a general knowledge of the elevations and configuration of the upper surface of the basement rocks. This could be done at a comparatively small cost. I do not mean that the work should be done in minute details, but if gravimetric and seismic surveys could be made over the country, we would have as the result a very comprehensive knowledge of the depths below the earth's surface of the basement rocks.

Gravimetric surveys in my judgment should be carried out by the federal government. The Coast and Geodetic Survey is charged by law with making gravity surveys. We now have in this country about 625 stations. Within a few years if funds are made available, this number should be increased many times.

Gravity data furnish a means of detecting the major features of geological structure. The gravity survey data supplemented by torsion balance, magnetic and seismic surveys should furnish data that would be invaluable to the petroleum industry. The detailed work should be done by the industries and not by the federal government.

By means of gravity surveys we have proved that the earth's crust is approximately in a state of equilibrium. We do not know just what are the dimensions of the block of the earth's crust into blocks approximately 100 miles square, just as we would the ice on a pond, and if there were no frictional or other resistance to vertical movements of the individual blocks, and the subcrustal material acted as a perfect fluid, the individual blocks would move up or down under hydrostatic pressures, but such movements in my judgment would be measured in hundreds rather than thousands of feet. There would be many cases where the blocks would have probably only an imperceptible vertical movement. Of course we cannot cut up the earth's crust into such blocks, but we can increase the number of our gravity stations in order to measure by an indirect method the difference in mass of different parts of the earth's crust, which has been found to extend approximately 60 miles below sea level.

This equilibrium of the earth's crust is called isostasy. Isostasy is valuable to the mining and petroleum industries and research because it makes it possible to compare values of gravity in one part of the country with those in another.

If we could have a very comprehensive gravity survey made over the coastal plains along the Gulf, I believe the results would be of immense importance. They would furnish in a general way the configuration of the basement rocks under the area and the individual gravity stations could also be used as control points for detailed torsion balance surveys.

The cost of making the topographic maps, the horizontal and vertical control surveys, and a comprehensive gravimetric survey of the country would be very small as compared with the great benefits that would result. The petroleum and mining industries employ great numbers of people. The investment of capital in these industries is enormous and the taxes levied on the profits of these industries by the Federal Government and states would certainly seem to justify the expenditure of some of the tax money on making topographic, geodetic and gravity surveys in order that the profits of these industries might be even greater than they now are.

Envisaged Survey Would Be of Great Commercial Value

By DONALD C. BARTON

Chairman, Research Committee of American Petroleum Geologists; past president of Society of Petroleum Geophysicists; delegate from the Geological Society of America to National Research Council.

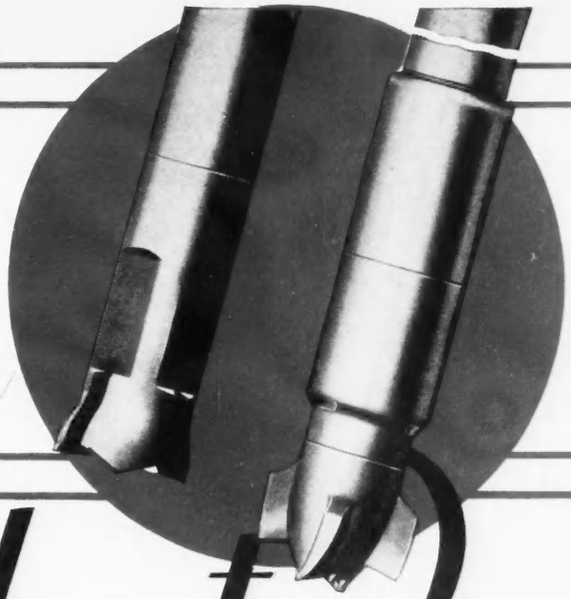
THE two projects, namely (a) the one to establish bench marks at intersections of longitude and latitude lines at intervals of one degree in the Gulf Coast States as per the map published on page 38; (b) the establishment of a series of absolute gravity base stations, have my personal support.

This project parallels one which was approved by the research committe of the American Association of Petroleum Geologists in March, 1935.

Accurate base maps are basically important for an extremely wide range of purpose; for example, of the registration of ownership of land, which becomes extremely important when the land becomes valuable; for proper assessment of land for taxes, etc.; and for wide range of mapping and engineering programs.

I am constantly astounded at how this country puts up with the mess in which its base maps are.

Such bench marks as are envisaged from the pri-



The master core drill for all-around coring service —makes fast hole and high recoveries of good cores in the widest range of formations.

Highest Quality MATERIALS

Insure Dependable Performance with SAFETY

Elliott Core Drills have earned a reputation for good performance over a long period of years. Such reputations are not gained by attempting to combine the valuable lessons learned from years of experience with poor materials in the manufacture of tools which operate thousands of feet under ground.

All materials used in Elliott Core Drills are the finest obtainable in order to insure dependable performance and to protect the users' investment. Each individual part is made from material of special analysis best suited to the service involved. Quality is rigidly maintained through constant checking and re-checking by experienced engineers who interpret its importance in terms of dependable performance in the field. No attempt is made to economize in either materials or manufacture at the expense of safety or efficiency in service. Cheapness at the bottom end of a long string of drill pipe is not true economy.

Write for descriptive bulletin stating whether rotary or cable tools are used.

ELLIOTT CORE DRILLING COMPANY
4731 East 52nd Drive, Los Angeles, California, U.S.A.
Export Office: 1215 Graybar Bldg., New York City

Elliott ROTARY AND CABLE TOOL Core Drills

mary framework for good base maps, and a good base map is necessary for construction of all sorts of accurate maps.

A regional net of gravity stations giving a regional picture of the variation of gravity would be of great theoretical value for a wide range of pure science problems regarding the geologic and structural makeup of the country, would be of great value in connection with some of the geodetic problems, and would also be of great commercial value over a considerable part of the area. As a commercial geophysicist who is interested particularly in the gravitational methods of prospecting for structure, I would find such a regional picture of great value; for a large part of the interpretation of local features can only be done when you see the relation of the local features to the regional picture. I, of course, am working for a company which has already made considerable headway in making an aerial gravitational survey of the western half of the area which you have outlined for the proposed project, and it is probable that we shall go ahead and do as much as you propose in your project for Texas and Louisiana at least. The results of our work will, of course, be available only for company purposes. Another large oil company probably will do likewise. The project of covering so wide an area is beyond the resources of all but the largest oil companies, and the work by those large oil companies will not be available to the public or to other oil companies. There would, therefore, seem to be a very great field of commercial value in such a survey as envisaged in this project. The result of such a survey would. of course, be available to all companies.

This project parallels one which was approved by the research committee of the American Association of Petroleum Geologists in March, 1935, for suggestion to the directors of the U. S. Geologic Service and the U. S. Coast and Geodetic Survey in connection with possible PWA or similar projects. That project was for the geophysical mapping of certain especially interesting structural areas in which regional geophysical surveys might be expected to give very interesting results. One such area was suggested as being the extension of the Appalachian Mountains under the coastal plain in Mississippi and Alabama and the surmised connection of the Appalachian under the coastal plain with the Ouachitas of Arkansas and Oklahoma.

Economic Possibilities from Mapping Gulf Coastal Plain Are Many

By E. H. SELLARDS

Director, Bureau of Economic Geology, the University of Texas.

THE average citizen of the United States has at best an imperfect knowledge of his own country. This condition is not due to lack of travel. The number of automobiles in use in this country in proportion to population is unusually large, and with the coming of automobiles, the American people, always explorers, because extensive travelers. In order to facilitate travel, great emphasis has been placed on building roads, which are a prime necessity. On the other hand, up to now relatively little emphasis has been given to mapping the country through which the roads pass. The result has been to place the principal emphasis on the rate of speed at which a country can be crossed with little regard to a knowledge of the country itself. In the absence of good maps, the educational opportunities of travel cannot be fully realized. In this respect this country is far behind most of the European countries where good maps are, for the most part, available and are used widely as an essential requisite.

Accurate basic land survey maps are necessary to the best development of the surface and subsurface resources of a country. Inevitably the first maps made of a country are sketchy, being based as a rule on reconnaissance surveys. The development of the country brings requirements for better maps. In this way the mapping of a country progresses through successive stages. The first maps available often are mere outlines, in which the outstanding physical features, such as rivers and mountains, are indicated in approximately their true relations. Subsequently, cultural features are added, usually first of all roads and lines of transportation. As the country is developed, need arises for the more accurate location of both cultural and natural features. This need is felt first in the towns where property values are greatest and next in the country as the lands become increasingly subdivided.

Several kinds of maps are required as a region develops from a wilderness to a fully settled country. Of first importance is a land survey map by which all natural and cultural features of the land are shown in their correct position with respect to each other and in correct proportions. However, the face of the earth is not static. Natural features, particularly streams, are shifted about by nature and cultural features are changed and added to by man. Maps depicting cultural and natural features are necessarily imperfect since not every foot of the terrain can possibly be surveyed. In this respect a wonderful aid has come in the development of photographs from the air, by means of which the exact position of objects on the earth's surface, both cultural and natural, can be determined and this record preserved for subsequent use. These records will prove of inestimable value particularly by making it possible to determine as of a given date the exact position of natural and cultural features, such as stream channels and land lines

Other kinds of maps are built largely onto the land survey maps. Of great usefulness among these are topographic maps, which show the relative elevation of the land surface. Based on measurement made with reasonable or close accuracy these maps depict graphically the actual elevation above a given level, usually sea level, of the land surface. In the changes made on the earth's surface by man and by nature, elevations change somewhat, as in the shifting of sediments carried by streams and in the excavations made by man. However, well-made topographic maps of any region have permanent usefulness and are indispensable for many purposes, such as drainage, road building, flood control, and mineral resource surveys. The part of our country covered by topographich maps of the accuracy required for present-day purposes is regrettably small.

Geologic maps by which the outcropping margins of the successive formations are shown are likewise built on land survey maps, with the aid of topo-

For DRILLING RIGS

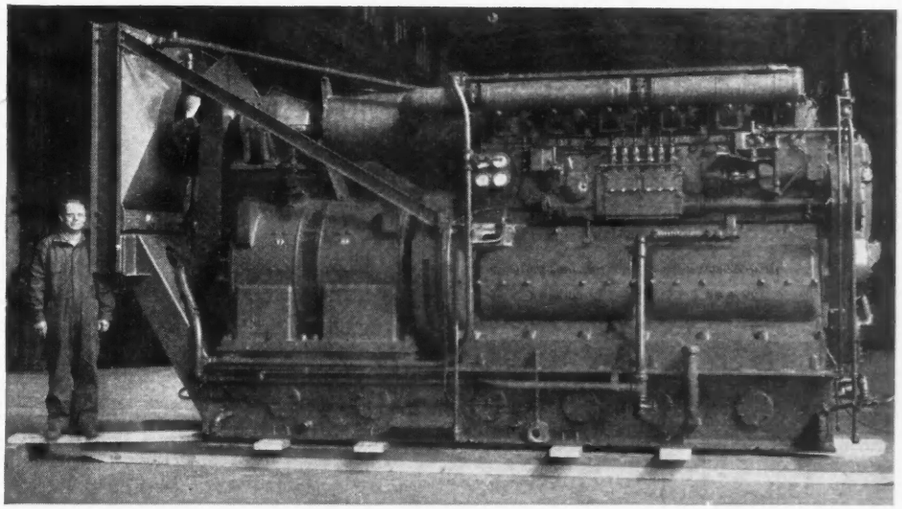
...the Right Power
...the Right Drive

MODERN
300 bhp
DIESEL

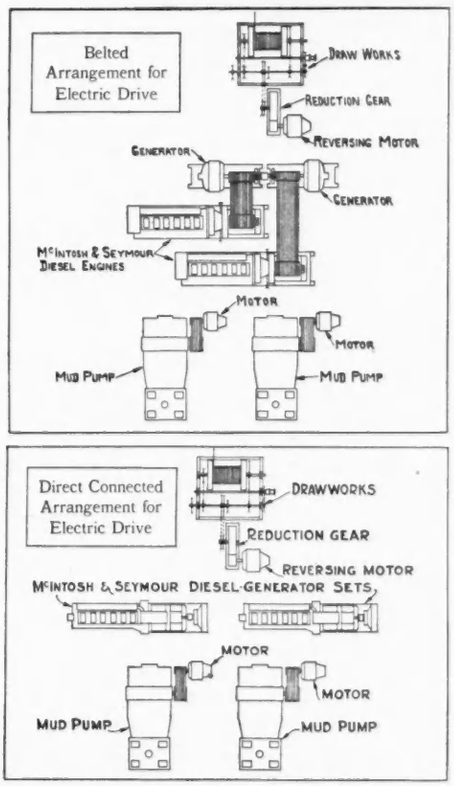
STURDY

RELIABLE

ECONOMICAL



McINTOSH & SEYMOUR DIESEL ENGINES



. . . both are selections vital to your final economy in drilling rig operation.

20 years of APPLIED Diesel engineering in the oil fields leave no doubt as to the "pay-off" on M-S Diesel power service—whether for drilling, pipe line pumping, or refinery work.

Only upon power experience gained through a very practical contact with field conditions can you be safely advised. When it comes to modern drilling problems, you will find our engineers talking your language.

Just tell us your problem

McINTOSH & SEYMOUR CORPORATION

DIVISION OF AMERICAN LOCOMOTIVE COMPANY

MAIN OFFICE AND WORKS, AUBURN, N.Y. Branch Offices: New York, N.Y., 30 Church Street; Boston, Mass., 20 Newbury Street; Chicago, Ill., McCormick Building; Washington, D. C., Barr Building; Houston, Texas, Esperson Building; Kansas City, Mo., Commerce Trust Building; San Francisco, Cal., Bourn Building.

Oil Well Drilling Rigs Equipped with McIntosh & Seymour Diesel Engines are Available Through the Oil Well Supply Company, Pittsburgh, Pa.

graphic and aerial maps. A very important part of the work of preparing geologic and mineral survey maps is accomplished when these basic land survey maps are available.

These several maps are of the land surface. But man's interests in the earth are not of the surface only, but of the subsurface as well and to an ever increasing depth. It is only gradually that man has been led to obtain products of value from below the earth's surface, at first by mining mineral veins which outcrop at the surface, and later by explorations by drilling which now extend not infrequently one mile or more, and in some instances more than two miles, below the surface. Mapping the position of formations underground now has become equally as important as mapping them at their outcropping margins on the surface.

The proposed gravity survey in the territory adjacent to the Gulf of Mexico, if carried out, will greatly aid the mapping program for this part of the United States. To establish accurately a large number of localities on the earth's surface by longitude and latitude as contemplated in this survey will aid in accurate land and topographic surveys. The gravity readings recorded for these stations will aid greatly in the study of the underground conditions for this large belt of country. One of the problems that greatly concerns geologists and one having important economic bearings is the relationship of the Appalachain mountain range to the mountains of similar structure in the Ouachita region of Oklahoma and the Marathon region of Texas. The belt of intense folding, which represents the southward prolongation of these ancient mountains, passes underground at the margin of the Gulf Coastal Plain. The coastal plains deposits of Cretaceous and later age, which are mostly relatively incoherent, conceal the older rocks of this mountain belt. The position underground of these ancient rocks of Paleozoic and pre-Cambrain age is imperfectly known adjacent to the Gulf from Florida to Texas. A gravity survey may be expected to yield some information both as to the depth and character of thes rocks. Three great embayments, Mississippi, East Texas, and Rio Grande, lie within this coastal plains region. Of these, the Mississippi embayment is the largest and its sub-structure the most imperfectly known. Some place within this great embayment the Appalachian belt of folding makes contact with the similar Ouachita and Marathon belts of folding in Oklahoma and Texas.

The problem of underground conditions in the coastal plains region is made more difficult by the presence of a great body of salt underlying parts of several states. These salt beds are the source from which is derived the salt of the salt domes of Texas, Louisiana, and Mississippi.

The economic possibilities of the deposits buried underground in this region adjacent to the Gulf of Mexico are very great. The region is now the principal source of the world's supply of sulphur and is an important producer of oil and salt. The proposed gravity survey will help greatly to determine underground conditions, on the correct understanding of which so much depends in the development of this part of the United States.

BAROCO A NEW, ECONOMICAL DRILLING CLAY FOR MID-CONTINENT AND GULF COAST OPERATORS

BAROCO makes 40 barrels of excellent 15 centipoise viscosity drilling mud per ton and saves from 25% to 50% in the cost per barrel over available native clays. It will build a better wall and build it more quickly than other clays, and resists salt and salt water. The use of BAROCO is especially recommended for drilling on salt domes or where it is expected that salt water will be encountered.

Stocks carried and Service Men available in all active Mid-Continent and Gulf Coast oil fields.

WELCOME TO AMERICAN PETROLEUM INSTITUTE

WORLDS OF RELIEF *from* DRILLING GRIEF

BAROID, AQUAGEL and STABILITE, the *proven* mud conditioners, are in use the world over and have contributed much to safer, faster and more economical drilling. Properly used, these quality products eliminate many dangerous and expensive troubles often encountered during drilling.

BAROID controls oil, gas and water pressures and has excellent suspending and wall-building properties. It will not settle even though circulation is suspended for months and makes pumpable muds weighing as high as 145 lbs. per cu. ft.

AQUAGEL has wall-building properties that prevent caving, stuck drill pipe and costly fishing jobs. It reduces abrasion, prevents cuttings from settling, seals off crevices and insures the landing of casing without sticking. AQUAGEL-Cement mixtures are used to plug crevices, restore circulation, set casing, straighten crooked holes, side-track tools and control high-pressure water.

BAROID · AQUAGEL · STABILITE — A Complete Drilling-Mud Service

STABILITE reduces the viscosity of thick drilling muds, quickly releases gas from gas-cut muds and is particularly valuable where weighting materials are in use or in drilling through heaving or caving formations.

Stocks carried and Service Men available in all active oil fields.

BAROID SALES CO.

LOS ANGELES • HOUSTON

NATIONAL PIGMENTS & CHEMICAL COMPANY, ST. LOUIS

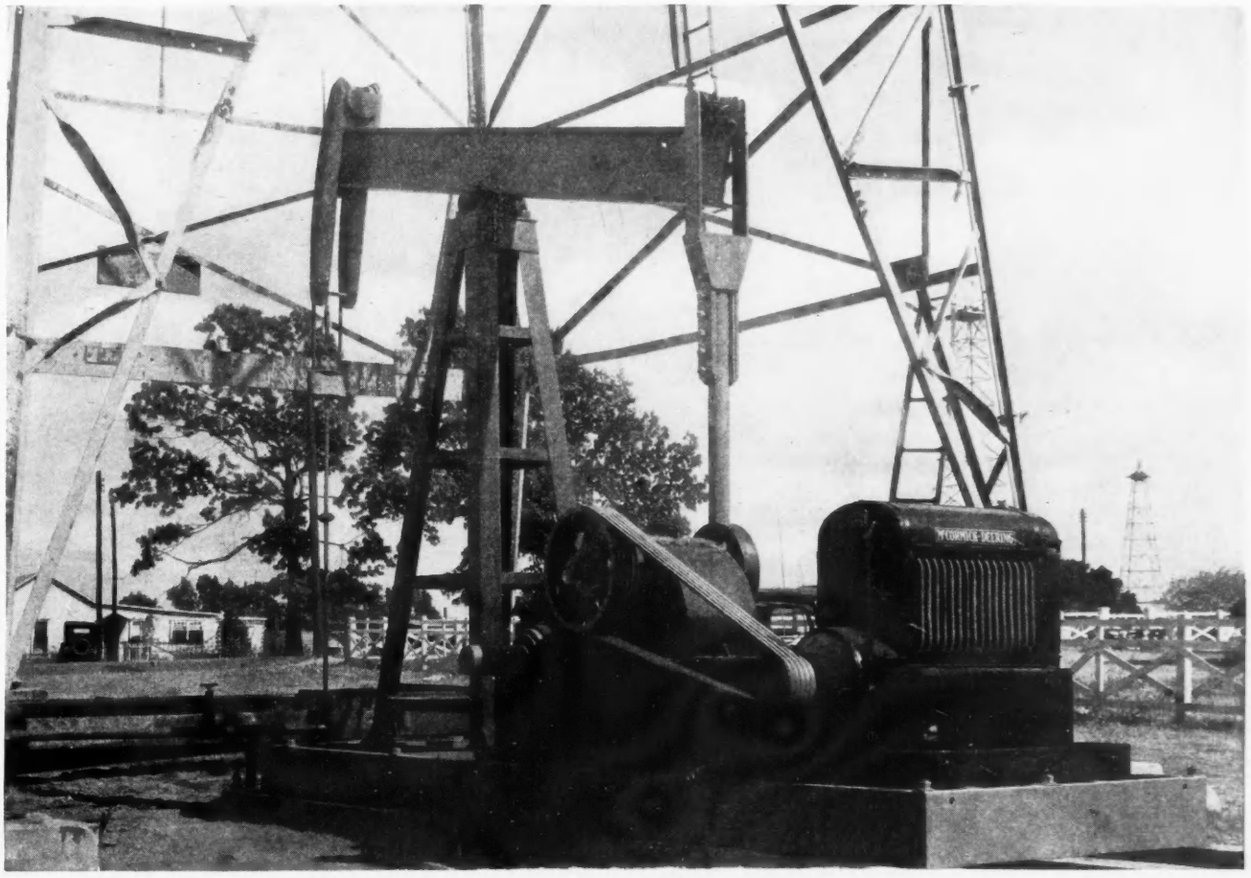
MILLIONS *of* HOURS *of* WORK

—*the Practical Endorsement Back of International Harvester Power*

WHEN the need for industrial power arises, bank on this wealth of experience. Let it be your guide in selecting power—be satisfied with nothing less than this proved performance, which is a guarantee of what this power can do for you. Furthermore, you will be getting the benefits of low operating and maintenance costs that have appealed so strongly to users in every field.

If your jobs call for powerful crawler or wheel tractors (gasoline or Diesel); for compact, mobile small tractors to handle difficult work in cramped areas; for power with inbuilt equipment of great variety; for fixed power units (gasoline or Diesel) of lasting quality, consult the nearest International Harvester branch or industrial distributor. Write us for information.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA
(Incorporated)
606 So. Michigan Ave. Chicago, Illinois



The Lion Oil & Refining Company uses this McCormick-Deering Power Unit at Kilgore, Texas. International Harvester offers a full range of power units in 4- and 6-cylinder sizes.

INTERNATIONAL HARVESTER

Swampy Area Deep Drilling

AT BAYOU ST. DENNIS MUST OVERCOME SEVERAL PROBLEMS

By BRAD MILLS, Associate Editor

THE Bayou St. Dennis field, first producing area of its type found in the Mississippi River delta district, ranks as one of the deepest commercial oil fields in the world, and stands out in many respects as an unusual producer. Yielding clean oil from a depth of 9600 feet, the field has set a new record for deep-seated salt domes, and because of its performance has placed a new value on a vast area formerly regarded as having greatest possibilities in the shallower formations principally affected by the piercement type salt plug.

In only one other field has a discovery well been completed at a greater depth, while not more than three wells in all other districts are producing from comparable depths. The new field is by far the deepest producing area along the Texas-Louisiana Gulf Coast, although it is producing from much younger formations than are productive at shallower depths in other areas. The influence of the delta fill is reflected by the thickness of formations between the surface and lower Miocene, the section penetrated in the field.

Geophysical Work

The structure was discovered by The Texas Company in 1934, and was indicated and mapped with reflection seismograph. In finding and detailing such a deep structure, the importance of reflection work is readily apparent. Other geophysical methods might have picked up structural tendencies, but they would have been so faint that the importance of the anomaly could not have been determined. The detailing of this structure was one of the most accurate geophysical accomplishments of the year and proved that the reflection seismograph is capable of indicating anomalies that may give southern Louisiana new fields at unusual depths. The structure was so completedly detailed and mapped ahead of drilling that the first well proved to be a good producer.

The geophysical crew was handicapped by the marshy condition of the area. The equipment either was pulled by hand or by specially designed equipment. The "marsh buggies" used to carry the geophysical equipment consisted of stripped down automobiles that were equipped with "squirrel cage" type wheels to increase traction and prevent sticking in the mushy soil. They were fairly effective except when used in the muddy sections not covered with marsh grass.

The Bay St. Dennis field is located about 25 miles south of New Orleans, six miles south and east of Lafitte, and about 15 miles west of the Mississippi River. The discovery gave Jefferson Parish its first commercial production, following abandonment of a number of wildcats at much shallower depths. The discovery well is located in the southeast quarter of Section 19-17s-24e and is less than a half-mile from the Dupree Cut, a government canal running to Lafitte and connecting with a larger canal that extends to the Mississippi River.

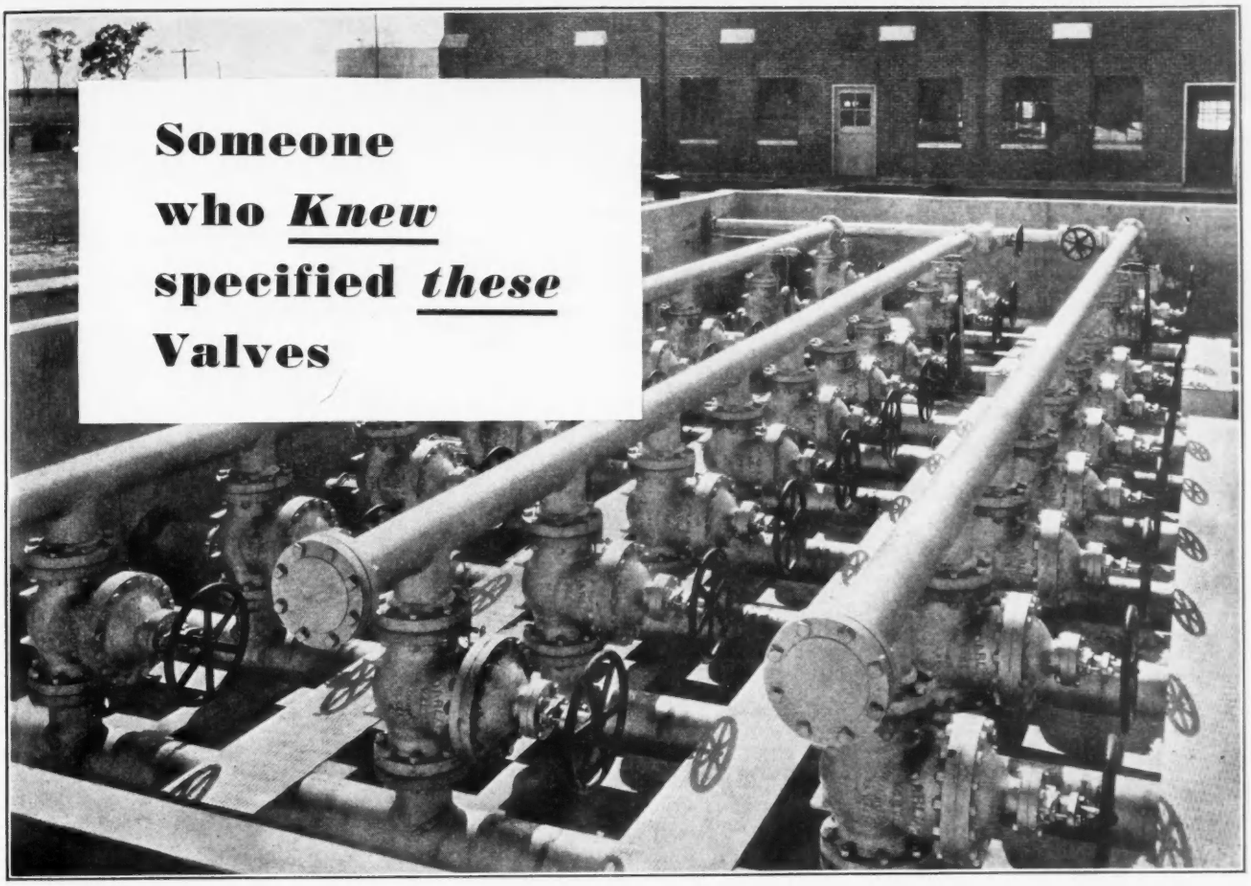
Drilling conditions are as near ideal as could be expected in such a deep producing area. This is in sharp contrast with difficult drilling conditions encountered on piercement type salt domes. The ease with which formations are drilled and the amount of open hole that can be carried are prominent factors in the rapid drilling of wells to the productive zone.

Only three wells have been drilled, but all three were good producers. This record sets a new standard of drilling for such a great depth and is in direct contrast with the large number of dry holes drilled on and around piercement type salt domes. The fact that Bayou St. Dennis is a very deep seated salt dome accounts for the almost flat position of the formations above the producing zone. The disturbance accounting for the structure was not severe enough to break the formations that would normally lie away from horizontal over shallower salt domes.

Drilling Practices

As much as 8500 feet of open hole has been carried below the surface casing string, and it is believed that this is a record. After passing through the surface sands and gravel, drilling is continued in formations that stand up well without casing, and high mud volumes and pressure do not affect the walls of the hole. These favorable formations reduce the drilling cost and time, and point to a very reasonable operating cost. The drilling time has been less than the average time in a number of fields producing from depths less than half as great.

The discovery well, Lafitte 1, was started late in January, 1935, and completed May 16. The drilling time set a new record for such a depth in an unproven field. The 13⅜-inch surface string was cemented at 1160 feet, and no more casing was run until the final producing zone was reached and a drill stem test made. Initial production was 2400 barrels of 36 gravity oil



SOMEONE who knew that *Performance* outweighs promises—Someone who knew that long wear and efficient operation are the results of superior design, quality materials and exacting standards of workmanship.

The pipe line manifold shown above is a "Picture of good judgment" on the part of someone who believes in *buying the best*—to *save the most!*

Buy *your* valves on the same basis. Specify DARLING!

Darling Valve & Manufacturing Co.

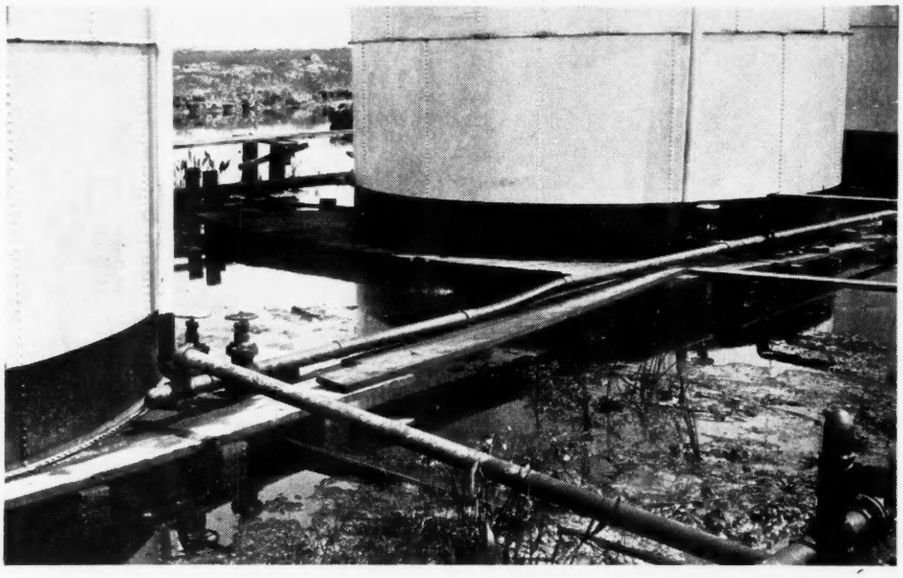
WILLIAMSPORT, PA.

NEW YORK OKLAHOMA CITY HOUSTON

Mid-Continent Distributors:
International Supply Co.
Moorlane Company

California Distributors:
Hickey Pipe & Supply Company
3375 East Slauson Ave., Los Angeles, Calif.

DARLING GATE VALVES



Flexible metal piping is used between flow tanks that are set temporarily on mat foundations in the Bayou St. Dennis field of Louisiana.

through a three eighths-inch choke, a very high flow from such a depth. The tubing pressure was 1600 pounds, but no casing pressure was carried, since a packer was used on the tubing. The 7⅝-inch casing was cemented at 9548 feet and was one of the longest strings of this size ever run. Total depth was 9572 feet.

The second well, Regeoletts 1, was spudded June 8, 1935, and completed August 29, a very fast elapsed time. Completion depth was 9568 feet and formations checked closely with those logged in the discovery well. The 13⅜-inch surface casing was cemented at 1300 feet and open hole carried to bottom. The 7⅝-inch oil string was cemented at 9506 feet. Initial production was about 2000 barrels per day through a three eighths-inch choke, with a tubing pressure of about 1600 pounds and no casing pressure. No shut-in pressure was taken, but it was indicated as very high.

The third well, Lafitte 2, was started in July and completed in September with an elapsed time of 70 days. This well was the deepest of the three, having been completed at 9647 feet. The 13⅜-inch surface casing was cemented at 1240 feet and open hole carried to bottom. The 7⅝-inch oil string was cemented at 9608 feet, and tubing with packer run to a point near bottom. Initial production was about 2000 barrels through a three eighths-inch choke and the flowing pressure through tubing was around 1600 pounds.

The drill stem test taken at 9647 feet in Lafitte 2 was an outstanding development during the drilling of this well. A shoulder was reamed at 9588 feet and 43 stands of oil was recovered in 15 minutes through a quarter-inch choke. Results were unusually good for such a deep hole.

The wells are brought in by setting a packer on top of the screen and washing in with water. About 60 feet of 70 mesh screen is used.

The first two wells were drilled on mats, but the third used a large barge as a foundation. Foundations in this field are a real problem and much trouble was experienced while drilling the first wells with mats. It was necessary at one time to jack up one side of a mat 14 inches. One mat sank about three feet during drilling operations, but the sinking was uniform enough to keep the derrick almost straight. The first derrick was specially braced for running the 130 tons of 7⅝-inch casing, but a check after running the casing showed that the derrick had settled about two feet from its original level. The second mat used as a foundation contained more than 130,000 feet of lumber.

The foundation for the third well was a large drilling barge of the type used in the open bays along the coast line. This barge was floated to the location through a canal and became the derrick foundation when sunk. Foundations of this type cover so much surface that they cause little trouble from sinking or moving. The dimensions of the drilling barge are 56 x 110 x 10 feet, the first two figures representing the width and length, and the last the depth of the hull. Each section of the barge is 24 x 110 x 10 feet, with an eight-foot separation between them. Each of the hulls has seven compartments, all being equipped with sea cocks for sinking operations. The barge is equipped with heavy drilling equipment, including 14 x 14 drilling engine and heavy duty 18-inch slush pumps.

The boiler barge is the sinking-floating type and carries three 125-horsepower, 350-pound working pressure boilers. This barge usually follows the drilling barge and is sunk a safe distance from the well location.

Drilling starts in sand and gravel, but sands and shales with occasional streaks of lime predominate below 2000 feet. Very little rock and few hard streaks are encountered. There is some doubt as to the formations penetrated, but it is believed that drilling stopped in the Miocene. The ease rather than the difficulty of drilling operations is a feature in this field.

The first tank batteries were built on mats, but the tanks will be placed on pile foundations. Sinking of the tanks on mats was so uneven that it was necessary to use flexible metallic pipe sections between each tank.

The oil is moved by barge through canals to New Orleans, but a pipe line from the field is being considered. If constructed, this line will be one of the first of any length laid in the district.

A large two-story house boat serves a number of purposes. About 45 men are quartered upstairs, while the first floor is given over to the kitchen, dining room and office.

MISSION..

SLUSH PUMP VALVES

MOST ECONOMICAL VALVE IN THE WORLD TO OPERATE

WHY are there by far more Mission Valves in use throughout the oil industry than any other make of valve?

BECAUSE they cut the operator's valve cost from 30 to 50 per cent.

●

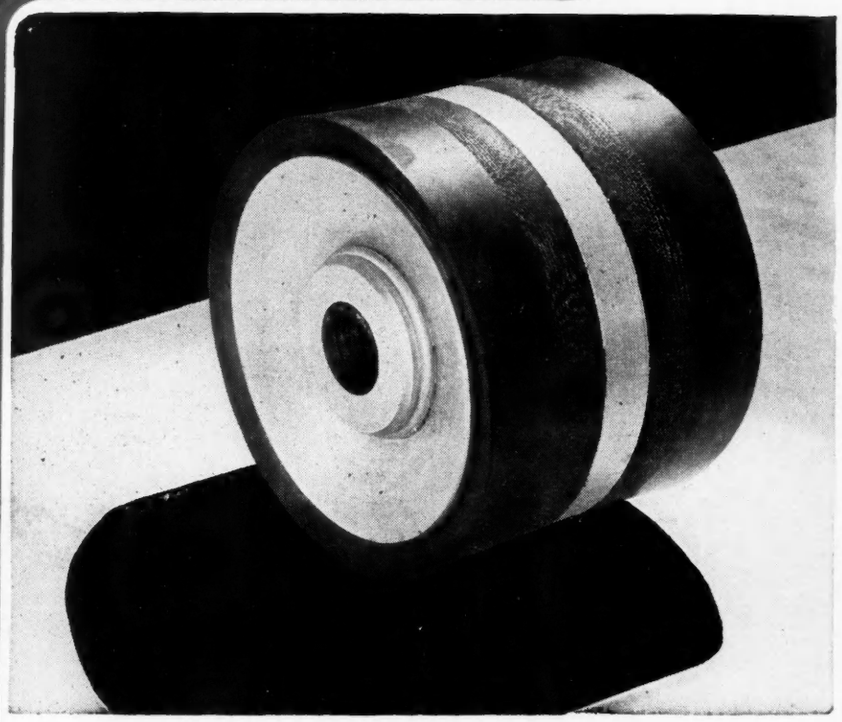
MISSION VALVES have never failed to prove their economy over any other make in a real COMPETITIVE TEST.

ECONOMICAL Because of astonishingly long life proven by record runs THROUGHOUT THE WORLD.

MISSION

New Improved

SLUSH PUMP PISTONS



SHOW ASTOUNDING SALES GAINS

BECAUSE . . . without a question of doubt, Mission Pistons are the most economical to operate and give consistently better service.

At the present rate of growth they will soon dominate as conclusively as do their companions the famous Mission Valves.

To prove above statements
we invite
COMPETITIVE TESTS

MISSION MANUFACTURING CO.

HUMBLE ROAD — HOUSTON, TEXAS

MISSION SLIPS . . . MISSION VALVES . . . MISSION PISTONS . . . MISSION PISTON RODS

DISTRIBUTED THROUGH SUPPLY STORES EVERYWHERE

Line Crossing Dangers

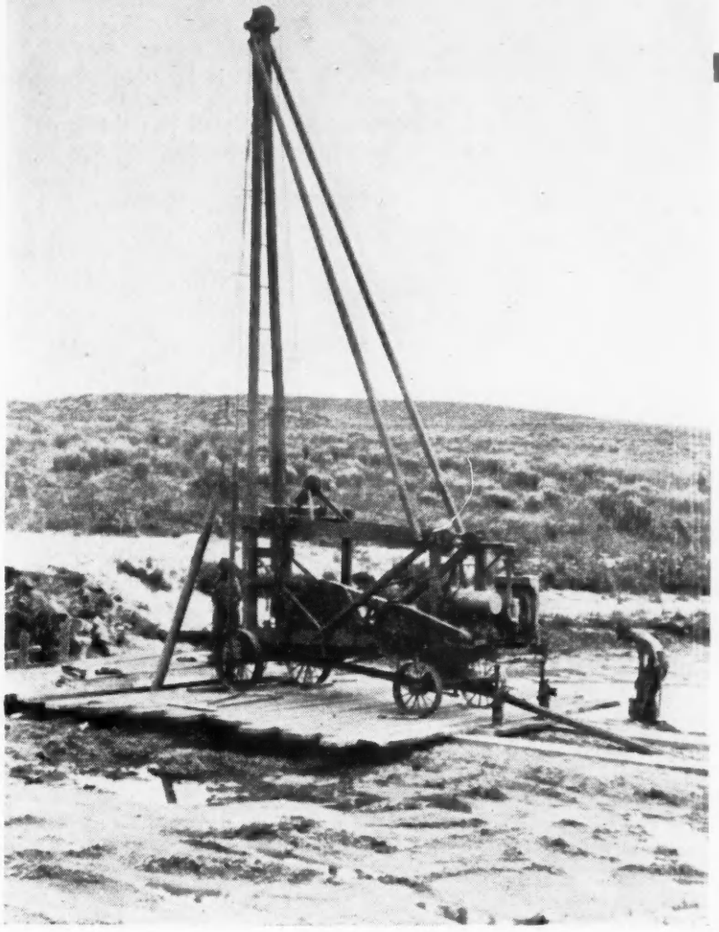
DUE TO QUICKSAND ARE OVERCOME BY PROPERLY ANCHORED PIPE SADDLES

By FRANK B. TAYLOR

THE increased hazard of quicksand as a result of recent heavy rains in the Texas Panhandle has prompted several oil and gas pipe line companies to further secure their gathering and lateral line crossings. A number of protective methods have been applied, each for specific cases. Shifting channels, caving of banks, and the movement of quicksands in even the smallest of streams, have presented problems that have, apparently, been correctly defined and overcome.

In locations where channels had swerved toward a bank covering a line, the ordinary procedure of rocking the bank was not found adequate, except where a considerable portion of the bank was of binding material. Sand alone, would be washed from beneath rock fills, either allowing the stone to sink to a level that would not afford protection, or allowing the rock to be carried with the stream and scattered.

At stream angles, where the current could directly attack the bank, it was found that junk car bodies and frames were usually effective in stopping erosion. In cases where the water could wash behind them, car bodies fell into deeper water, partially damming the current. Old frames and bodies can usually be procured at junk yards at from nothing to one dollar each. By stringing cables through cross members, etc., the collection can be anchored. Closely driven piling has been used in a number of instances where other means of protection were considered of doubtful value.



A drilling machine set on a plank track for support is used in sinking the standards for pipe line braces.

Protection At Quicksand Crossings

The unusual dangers of quicksand, or "floating sand", have been eliminated by sinking pipe to and in bed rock, and by then supporting the line on cross-piping. In this manner the shifting of the sand bed of the streams does not leave the line hanging free when the bed is lowered, and at the same time, affords adequate protection at high water levels.

A spudding machine is used to make hole. In some cases quicksand was found that exceeded 20 feet in depth, saturated from surface to bedrock. Consequently, in order to move the equipment from one setting to another it was necessary to construct a temporary track of three- by twelve-inch timbers. These could be removed and hauled to the next location.

The location of the line can be obtained by the use of a steel rod. With the sides of the pipe definitely located, a two-inch plank is driven into the sand so that its lower end is below the pipe bottom and with the upper end above sand level. This has a two-fold

purpose; first, in protecting the line against the jar of driving and drilling; second, it assures space for a welded saddle to be swung under the line.

Eight-inch condemned pipe is satisfactory for the outer sleeve, and holds back the sand. This is driven through the sand to solid rock. A 6⅝-inch bit is used to drill out the eight-inch hole, which is carried into the bedrock. The six-inch pipe is then lowered through the eight, and into the additional hole.

The lower end of the six-inch pipe is perforated as far as it will enter the rock, and cut off at the top on a level with the outer eight-inch casing. After the six-inch string is set, concrete is poured into the end of the pipe, and finds its way through the perforations to form a binding with the rock strata. A mix of four of sand and one cement was found most suited for this purpose.

Another hole, piped in the same manner, is drilled directly opposite the first on the other side of the line. With the completion and setting of the two pipe stands, the two-inch boards are removed from between the eight-inch casing and the line, and the supporting saddle is placed beneath the line.

These saddles may easily be constructed from a circular cut of pipe the same size or larger than the line pipe. They are bent to conform with the lower half of the circumference and straightened at the top for welding to the six- and eight-inch pipe stands. Directly over the saddle, another brace is welded across the pipe.

In this construction the line pipe is protected against sinking into the bed of sand, and also against being lifted out of the risers. On lines of small diameter a single riser from bedrock with welded hanger has been found satisfactory.

The peculiar ability of working sand to lift a line has been noted in a number of cases. Up-stream sags have been straightened, and in one instance a considerable sag thrown upstream was submerged and reappeared downstream, the crossing being lost as a result.

A slightly different type of protection is necessary where the depth of the sand is not great, and where rock strata is immediately underlying. During high water these stretches exert a tremendous force, and the sand is agitated throughout its depth.

Adequate protection here necessitates lowering the line into a trench worked into the solid rock. Holes on opposite sides of the pipe are drilled in the same manner, but with the line resting within the rock ditch, only bracing above the line is necessary. (Figure 1).

A short piece of two-inch pipe usually can be made to serve this purpose, although in some sections where the rock had a tendency to overhang the line, the risers may be increased in height. Across the tops of the pipe stands a two-inch length is welded with a vertical brace in the center. This is illustrated in the diagram of the two methods, No. 1 in dotted lines.

The distance between the twin supports is dependent upon the working range of the stream channel. Sand banks that may wash require an additional setting on each side. Expansion and contraction units should be used on the shore side of the last pipe standards.

Cost Considerations

Drilling costs and the cost of driving the eight-inch outer pipe are dependent upon the subsurface conditions; the per-foot cost only being determinable after knowledge of the strata to be penetrated. Salvage pipe, both for bracing and risers, is adequate. Considering a hole depth of 14 feet, using the size pipe described, about 40 cubic feet of concrete will be necessary for each twin riser. Then, there is the welding cost.

Total drilling machine time will be dependent upon how many moves are made from one location to another. These moves can best be made with a "cat" as the usual oil field roads would require considerable conditioning. With a cat on the job the drilling machine can be skidded from one setting to another with a winch line; from one side of the line to the other, or up the line to the location of the next standard.

Where rock strata is near the top of the sand, and where the rock is cut with a ditch, a flume is necessary during construction. Also, each night the equipment must be moved from the streambed as precaution against high water.

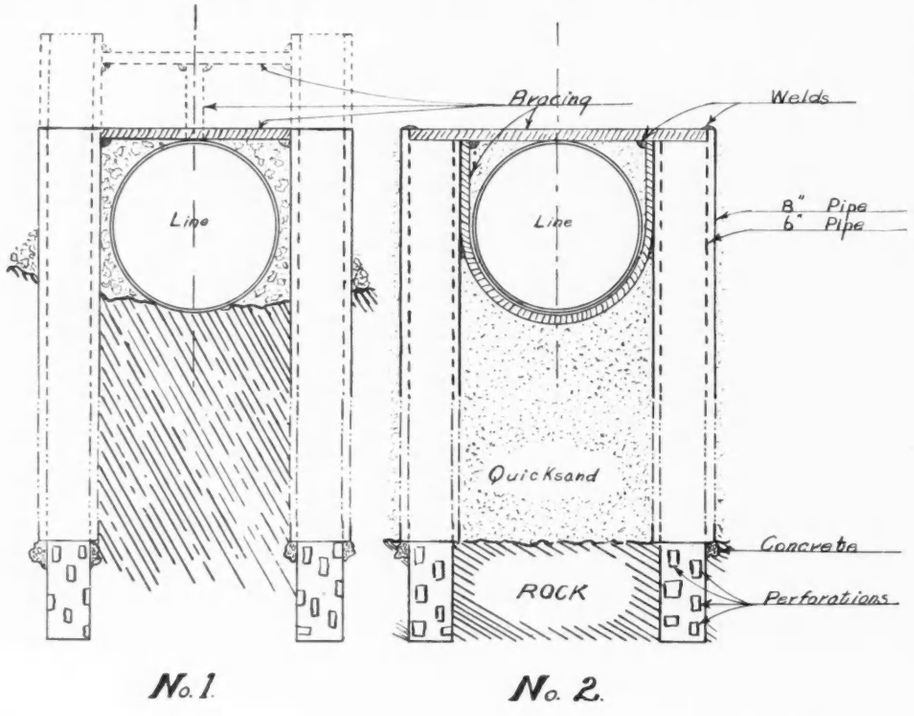
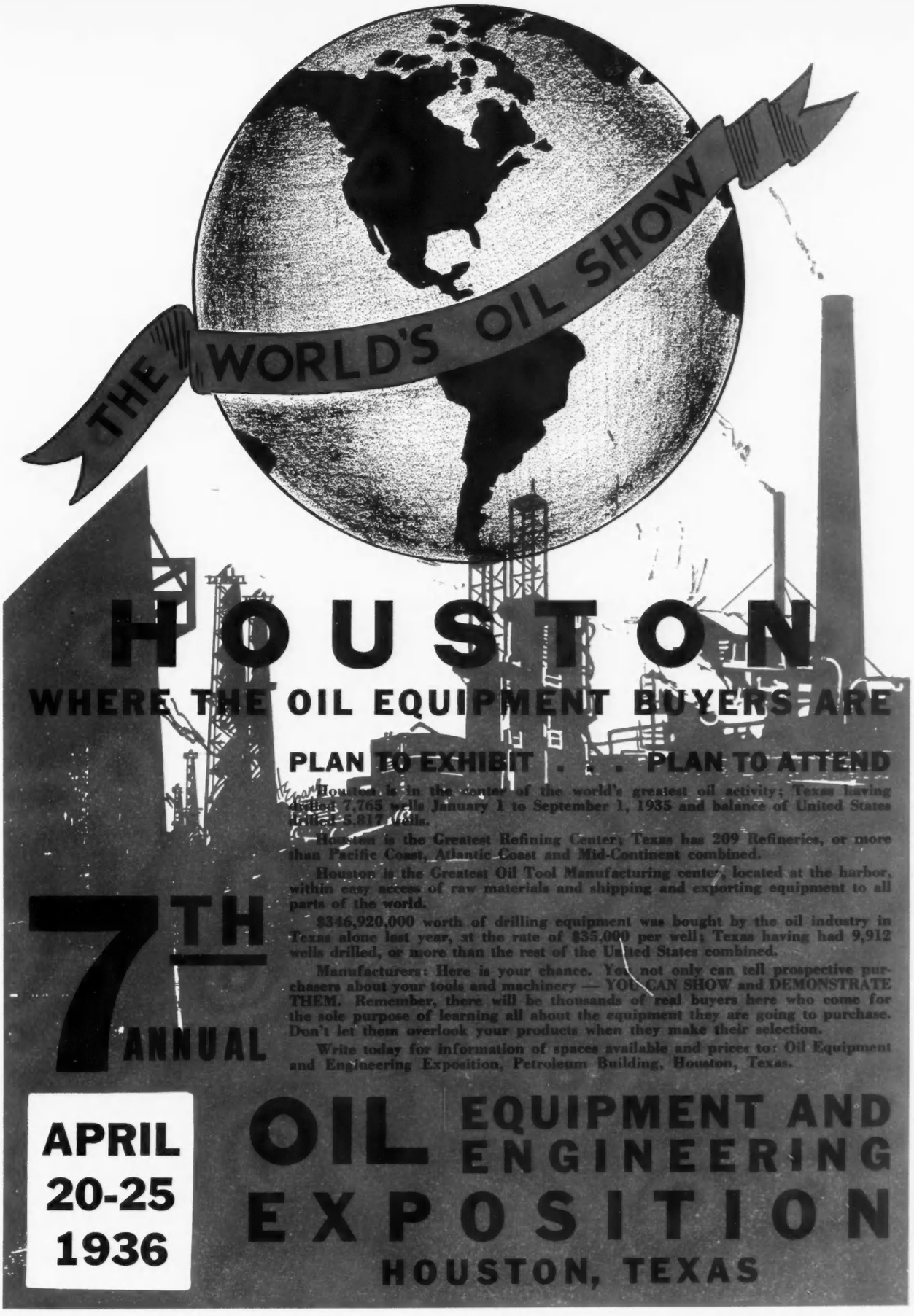


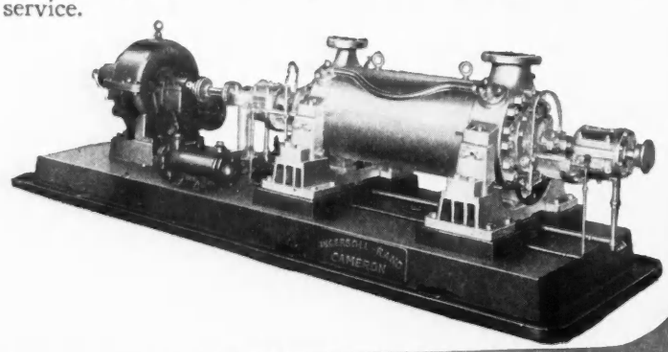
FIGURE 1
Showing two methods for protecting pipe line crossings from quicksand.


THE WORLD'S OIL SHOW
HOUSTON
WHERE THE OIL EQUIPMENT BUYERS ARE
PLAN TO EXHIBIT . . . PLAN TO ATTEND
Houston is in the center of the world's greatest oil activity; Texas having drilled 7,765 wells January 1 to September 1, 1935 and balance of United States drilled 5,817 wells.
Houston is the Greatest Refining Center; Texas has 209 Refineries, or more than Pacific Coast, Atlantic Coast and Mid-Continent combined.
Houston is the Greatest Oil Tool Manufacturing center; located at the harbor, within easy access of raw materials and shipping and exporting equipment to all parts of the world.
$346,920,000 worth of drilling equipment was bought by the oil industry in Texas alone last year, at the rate of $35,000 per well; Texas having had 9,912 wells drilled, or more than the rest of the United States combined.
Manufacturers: Here is your chance. You not only can tell prospective purchasers about your tools and machinery — YOU CAN SHOW and DEMONSTRATE THEM. Remember, there will be thousands of real buyers here who come for the sole purpose of learning all about the equipment they are going to purchase. Don't let them overlook your products when they make their selection.
Write today for information of spaces available and prices to: Oil Equipment and Engineering Exposition, Petroleum Building, Houston, Texas.
7TH ANNUAL
APRIL 20-25 1936
OIL EQUIPMENT AND ENGINEERING EXPOSITION
HOUSTON, TEXAS

EQUIPMENT FOR OIL FIELD AND REFINERY

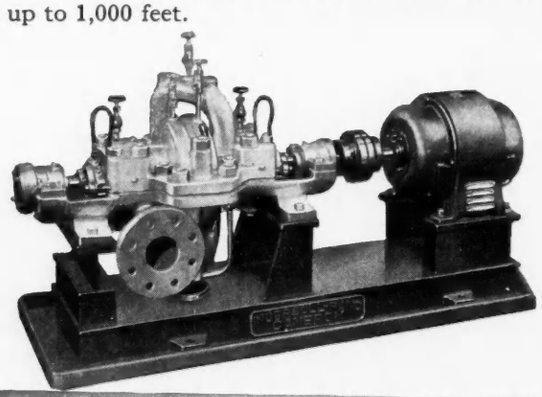
HIGH PRESSURE HOT OIL CHARGING PUMPS

High pressure centrifugal pumps designed for the sole purpose of handling high-temperature oils in cracking-coil charging service.



HIGH PRESSURE HOT OIL AND REFLUX PUMPS

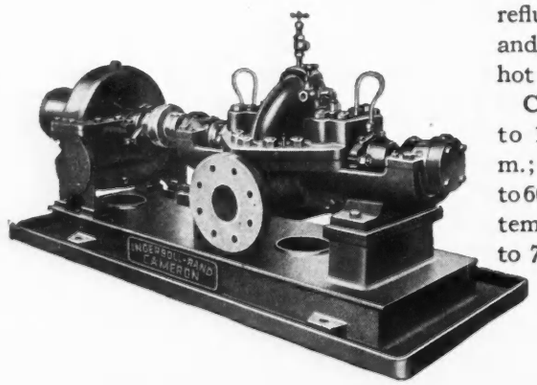
Two-stage, single suction, medium pressure hot oil pumps for heads up to 1,000 feet.



HOT OIL AND REFLUX PUMPS

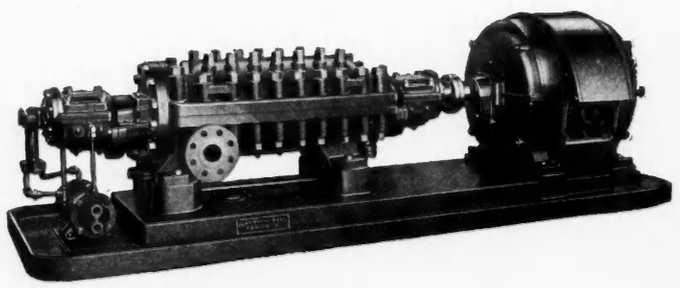
Single-stage, double-suction, volute-type pumps, especially designed for reflux service and pumping hot liquids.

Capacities to 1200 g.p.m.; heads up to 600 feet and temperatures to 750° F.



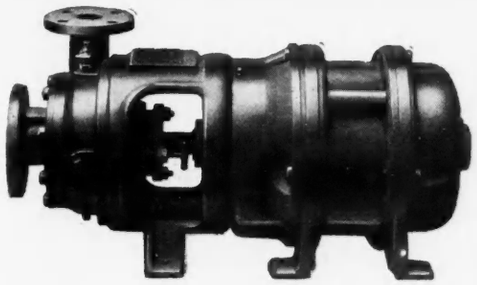
BOILER FEED PUMPS

Reliable and efficient multi-stage centrifugal pumps. Capacities to 3,000 g.p.m., and heads up to 1,000 pounds per square inch.



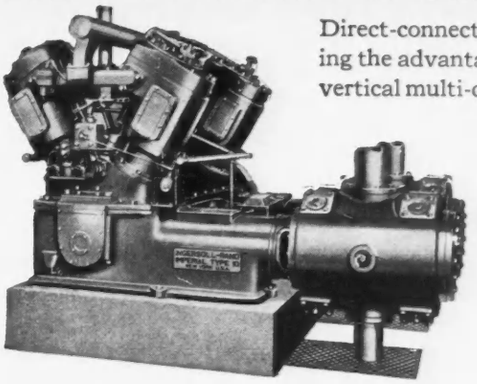
MOTORPUMP

Pump and motor built in one compact unit with no coupling or baseplate. Can be mounted in any position. Suitable for heads up to 500 feet. Sizes from 1/4 to 50 hp. Capacities 5 to 1,000 g.p.m.



Open, enclosed, splash- or explosion-proof motors for all current conditions.

GAS-ENGINE-DRIVEN COMPRESSOR

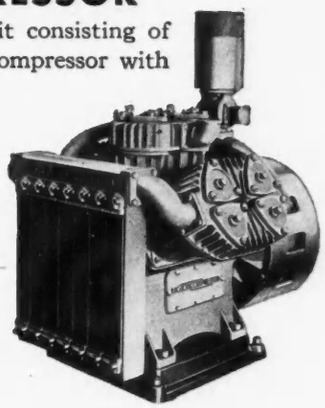


Direct-connected units combining the advantages of the 4-cycle, vertical multi-cylinder gas engine with those of horizontal, double-acting compressor.

Four sizes available:—60, 125, 190 and 260 BHP.

MOTORCOMPRESSOR

A compact, self-contained unit consisting of two-stage air-cooled I-R air compressor with "built-in" electric motor. Requires very little floor space and no special foundation.



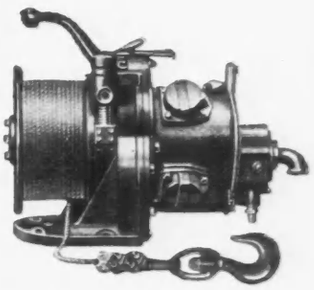
Delivers 23% more air at 100 pounds pressure than single-stage compressor, and uses 15% less power per cubic foot of air compressed.

Made in 20 to 75 hp. sizes.

AIR TOOLS

Impact Wrench—saves its cost on one turn around or metal inspection.

"Utility" Hoist—Various sizes—portable units that save money on a multitude of hoisting and hauling jobs.



The petroleum industry is noted for its constant and rapid improvement in all of its various branches. The INGERSOLL-RAND Company is grateful for the recognition that the industry has accorded its many pumps, compressors, engines and other products that play so important a part in the production and refining of petroleum. Many of these machines are shown here. Most of them will be on display at our Los Angeles office during the A.P.I. Convention. We hope to have the pleasure of showing them to you.

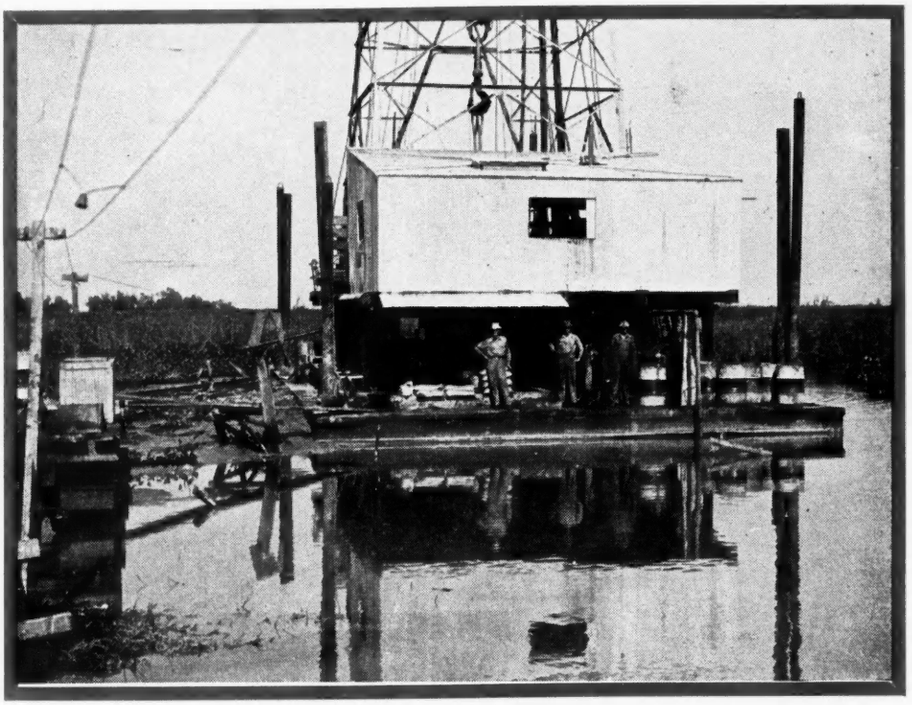
Ingersoll-Rand

222-10

11 BROADWAY, NEW YORK CITY

Birmingham					Scranton
Boston	Cleveland	Duluth	Los Angeles	Picher	Seattle
Buffalo	Dallas	El Paso	Newark	Pittsburgh	St. Louis
Butte	Denver	Houston	New York	Salt Lake City	Tulsa
Chicago	Detroit	Knoxville	Philadelphia	San Francisco	Washington, D. C.

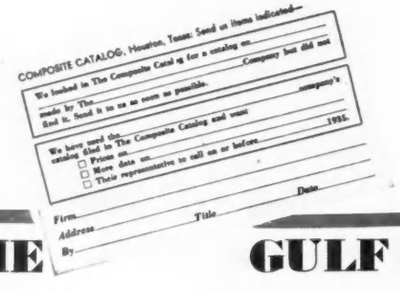
Barges drilling



. . . is only one of the thousands of oil country equipment items mentioned in the classified index and described in the Composite Catalog of Oil Field & Pipe Line Equipment.

Consult your Composite Catalog for information on any type of drilling, pumping and pipe line equipment. If the latest copy of the Composite Catalog is not on your desk, it's not far away. In referring to the Composite Catalog you have the assurance that the equipment cataloged there is up to date, thoroughly tested and is described by a reliable manufacturer.

In case you do not find the particular information for which you are seeking—tear out one of the Blue Cards from the back of the Catalog—mail it in—we'll get it for you.


COMPOSITE CATALOG, Houston, Texas: Send us items indicated—
We looked in The Composite Catalog for a catalog on_____
but found it was not as complete as possible._____Company has did not made by The_____
We have used the_____ catalog filed in The Composite Catalog and want_____ company's
☐ Prices on_____
☐ More data on_____
☐ Their representative to call on or before_____ 1935.
Firm_____
Address_____ Title_____ Date_____
By_____

THE GULF PUBLISHING CO., Houston, Texas

Radio Communication

SYSTEM PROVES ADVANTAGEOUS IN MARSHY, INACCESSIBLE DISTRICTS

By BRAD MILLS, Associate Editor

THE radio-telephone system developed by The Texas Company for use in the marshy areas of southeastern Louisiana has proved an effective means of communication between company headquarters near Houma and operations in a number of isolated fields not served by telephone or highway. The communication system was placed in service in September, 1932, and has been a factor in the successful development of several inaccessible fields. Prior to the use of short-wave radio stations, company headquarters at Houma was out of direct touch with operations in a number of sectors, and in case of emergencies or trouble the time required to make a report proved an expensive handicap.

The radio-telephone system consists of a number of combination broadcasting and receiving stations, each of which is a complete unit. Only one wave length is used by all stations and all communication is by voice. Use of a single wave length has a few disadvantages, but it causes a minimum air disturbance and permits operation of a number of stations with no more interference than would be caused by a single station. So long as each station takes its turn on the air or cuts in only when called, a single wave length is not a handicap.

Regular broadcasts are scheduled at 7 and 11 a. m. and 2 and 4 p. m. Business of every type is transacted over the radio at these hours, but certain reports are featured at each of the four broadcasts.

The 7 a. m. broadcast is the longest and usually the most important of the day. All orders and progress reports from the various fields, leases and wells are received at this hour. Drilling data, requests for materials, and orders for the day are received and sent during the early morning broadcast.

The superintendent at Houma takes the most active part in the broadcast by talking to the various field foremen as they are called. These conversations by air often assume a very informal tone and the field foreman can present his problem almost as well as in person. Decisions on fishing jobs, transfer of men, cementing points, mud weights and lease problems are made.

The first part of the 7 a. m. broadcast is followed by tank gauges and oil runs, each station reporting as called by the headquarters station. This part of the broadcast requires the bulk of the time, but it gives headquarters the full information required for making the daily production report.

The warehouseman sits in on the early morning broadcast and lists the equipment requested by the foremen. He also takes part in the broadcast by offering suggestions or advising the field men whether the supplies are on hand. This advanced information gives the warehouse department time to prepare shipments and to make deliveries as needed. The warehouseman usually asks for the return to the warehouse of equipment that may be needed elsewhere.

The second morning and two afternoon broadcasts

The small sending and receiving stations located in various fields are on barges and boats.

The main station at headquarters is operated on a barge floating in the canal.

are devoted largely to routine matters, but all foremen and the superintendent ordinarily take part. The outside stations answer as called by the home station.

Can Call Any Time

A receiving set in the main office is tuned in at all times, and any station can call at any hour of the day. In case of emergencies or important developments, the headquarters station is called in a strong voice. The operator at headquarters goes immediately to his station and talks with the station that called. This open channel has been the means of saving time and effort, since important developments between broadcasts often necessitate immediate action.

On several occasions, men have been hurt while working in the field. It has been possible in almost every instance to have a doctor present by the time the man could be brought to headquarters by boat. With headquarters located about 22 miles from Houma, physicians and nurses can be obtained as quickly as an injured man can be brought in from the field, a distance of 20 or 30 miles. The message is picked up on the receiver at headquarters, while doctors are obtained by telephone from Houma and other points. On one occasion, an emergency report from the field also was picked up by a number of short-wave receiving sets tuned in by individuals in the area. When the injured man reached headquarters by boat, he was met by two or three physicians who had been notified by outside parties, in addition to the company physician.

The radio has proved a very valuable communicating means during hurricane periods. Reports are received by the company from New Orleans and warnings are broadcast to all local stations. These warnings have saved valuable equipment on several occasions and have checked dismantling operations that were started prior to the shifting of the hurricane to another area.

Men and foremen working in the isolated fields feel a greater sense of security since the radio-telephone system was installed. During storm periods the field personnel have little fear of an approaching hurricane, and they are content to remain at their posts because of their direct contact with headquarters.

Stations Are Floating Type

The stations range in power from 15 watts to 50 watts. All broadcasting is done on a wave length of 2738 kilocycles, or 109.4 meters. Most of the transmitters were built by the company's geophysical department at Houston.

The company now is operating 10 small combination receiving and sending stations that serve the Leesville, Caillou Island, Lake Barre, Bay St. Elaine, Lake Pelto, Port Texaco, Dog Lake, Four Isle, Bayou St. Dennis, Garden Island Bay and Houma (headquarters) areas. All stations are licensed by the government.

Under the requirements for licensing a marine sending and receiving station, the equipment must be located on a ship, barge or tug that is movable. The company maintains and operates all stations on floating carriers that either move under their own power or are readily moved.

The stations operate with storage batteries and dry cells. Since only one wave length is used, it is necessary to throw a switch back and forth when carrying on a two-way conversation. One station will ask another a question or make some statement, and will throw the switch and await the reply. This arrangement simply means that so long as one station has the air, the receiving station can not cut in before tuning off the broadcasting station. Each station comes on the air as called, but can follow the broadcasts of the other stations. Ordinary hand microphones are used in the broadcasts.

Most of the stations are located a short distance from headquarters near Houma, but recent extension of operations has increased the radius. The nearest station is about 20 miles, while Garden Island Bay, located about 120 miles from the home station, is the most removed station. Each station is handled by a licensed operator. This increases the operating cost to some extent, but the licensed operator can make repairs that could not be effected by a practical operator. The United States government also requires that each station be operated by a licensed operator.

A telephone or telegraph system covering the territory now served by the radio-telephone system would require a considerable expenditure and probably would be less satisfactory. Construction and maintenance of transmission lines in a marshy district require a much greater outlay than similar lines in accessible areas. It is not unusual for a tropical storm to destroy telephone and telegraph lines along this part of the coastal belt.

VERSATILE *Performance*

6 Hoisting Speeds
3 Rotary Drive Speeds

With six hoisting speeds and three rotary drive speeds immediately available from the drillers position by merely shifting the Clutch levers, the type B-3700-B Draw-works offers extremely versatile performance. Other features of advanced design include water cooled brake flanges, compound brakes, American Roller Bearing mountings on all shafts, unitized assembled construction, extra large rope spool and horizontal drum drive.

Diameter Drum Shaft through Sprockets and Clutches	9"
Diameter Jack Shaft through Sprockets and Clutches	8"
Diameter Lineshaft through Sprockets and Clutches	8"
Diameter All shaft through Roller Bearings	7"
Size Spooling Drum	26" x 42"
Size Brake Flanges	10" x 50"

DISTRIBUTORS:
Lucey Products Corporation.
Lucey Export Corporation.
Houston Oil Field Material Co., Inc.
Murray-Brooks Hardware Co., Ltd.

THE WHELAND COMPANY

ROTARY DRILLING EQUIPMENT

Chattanooga, Tenn.

U. S. S. R. Prospecting

BY MEANS OF ELECTRICAL METHODS YIELD SOME INTERESTING RESULTS

« PART 2 »

IT WAS explained in Part 1 of this series of two articles that prospecting by electrical methods had grown rapidly in the U. S. S. R., and the Grozny District was discussed in some detail. In Part 2, which is presented now electrical studies and their results in other regions will be discussed.

Bakou Region

Electrical prospecting in the Bakou region was done in three different zones.

1. Part of the Apcheron peninsula from the Machtaguy Romany meridan, to the end of the peninsula. This is a region of 180 square miles which we shall discuss in detail later (see general map of the peninsula, Figure 2).

2. Part of the sea, in particular at Bibi-Eibat, south of Zykh and north of Bouzovni, the presence of the conductive sea water offers some technical difficulties for the execution of the measurements, but no difficulties at all in principle if the depth of the sea does not exceed 30 feet. The resistivity of the water of the Caspian sea is about one-half an ohm per m/m^2, and therefore, not very different from that of the formation immediately underlying the sea which has a resistivity comprised of 0, 8 ohms to 3 ohms per $mm.^2$

Later the example of the detailed study of the Bibi-Eibat bay will be given. The results obtained on other zones explored at sea are shown with the resistivity map of the Apcheron peninsula.

3. A surface of 400 square miles was explored in the Koura plain. Extending southeast of the Apcheron peninsula, along the Caspian sea shore up to the mouth of the Koura river. A detailed study of the Pirsagat zone cleared up the intricacies of this structure and showed that it was cut by faults. Further south the general tectonics show up very well electrically and in particular the Bandavan and Baba Zanan folds.

Electrical Characteristics of the Formation

We shall study more in detail the resistivity map of the Apcheron peninsula in giving first the stratigraphic scale of the formations on the eastern part of the peninsula and indicating their electrical characteristics.

A. RECENT DEPOSITS: They are essentially deposits of recent Caspian sands, eolians or alluvial sands. These deposits are relatively thin with a variable resistivity. They do not play an important role, electrically speaking.

B. CASPIAN DEPOSITS: (Post Pliocene). They are mostly conglomerate, boulders, sands and limes. Their resistance, as a whole, varies from 5 to 30 ohms. These deposits appear in terraces which are on the average more developed in the synclines than above the anticlines.

C. APCHERON (PLIOCENE): There are three subdivisions: upper, middle, and lower. It is succession of limes, sands, and clays. The upper part being nearly exclusively lime, therefore resistant while the lower part is mostly clay and conductive (.6 to 1.5 compared to three to five ohms).

D. AKTCHAGUYL (PLIOCENE): Practically entirely made up of clay with the same resistivity than the clays of the lower Apcheron.

E. PRODUCTIVE SERIES: In the eastern part of the Apcheron peninsula these series are already too deep to play a role in electrical surface exploration. On an average, they are more resistant than the lower Apcheron and Aktchaguyl clays.

In short, the electrical marker is again a thick bed of conductive clays (about one ohm) located below the resistant Apcheron lime beds, with the result that, as at Grozny, the anticlines appear as conductive and the synclines as resistant areas.

Application: Apcheron Peninsula

A study of the map of Figure 2 from the west to the east is in order, mentioning first that the explored zone is rather even and that, for the most part, terraces, or an overburden mask the geology.

A conductive zone is corresponding to the Sabounchy Sourakhany Zikh fold. The new and important fact is the prolongation of the Zikh anticline below the sea in the direction of the Piechany Island.

North of the figure a conductive zone exists in the Machtaguy region. This conductive zone was found to be underlain by clays and a subsequent check, by drilling proved the presence of a new anticline.

In the region of Bouzovni, Mardakian another conductive zone is apparent and corresponds to another anticline already mentioned by the geologist Goloubiatnikov prior to the geophysical work.

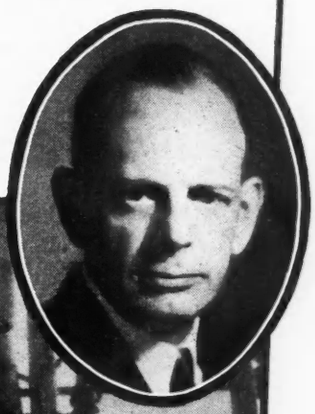
In the region of Kala Tiourkend appears a conductive zone of 12 kilometers long. The portion situated north of Kala was already known geologically. It corresponds to a dome which remained for a long time unproductive, but which proved finally productive in 1932. The southern extension toward Tiourkend is a new geophysical discovery. Prior to the geophysical work and because of the overburden, which is observed south of the lake, it was believed that the

New Field Opened

AND HERE'S WHAT THE DISCOVERER SAYS ABOUT IT!

George M. Church's J. C. Woods No. 1 wildcat discovery, Bee County, Texas, is the only successful completion of many efforts in this area of "doomed holes" due to heaving shale and terrific gas pressure. It was finished with COLOX in spite of the following handicaps existing when COLOX ENGINEERING SERVICE was called in to direct the job: Cavities required walling up . . . . terrific gas pressure to be held . . . . 5814′ of 5″ O.D. collar-type casing to be set in a 6⅝″ hole . . . . additional 20′ to be drilled with 2½″ upset tubing . . . . tubing string then to be pulled and rerun with packer and screen to 5834′ . . . . clearance for pumping mud between upset tubing collars and casing approximately only 11/32″.

The job was successfully handled, using COLOX of an average weight of 19#/gal.—Thus another performance record for COLOX and the Engineering Service behind it—the superior Mud and Mud Service that is today saving trouble and money for operators wherever hazardous conditions prevail.



CRANE OIL CORPORATION
TRINITY LIFE BLDG.
FORT WORTH, TEXAS

G. M. CHURCH, GENERAL MGR.

September 27th, 1935

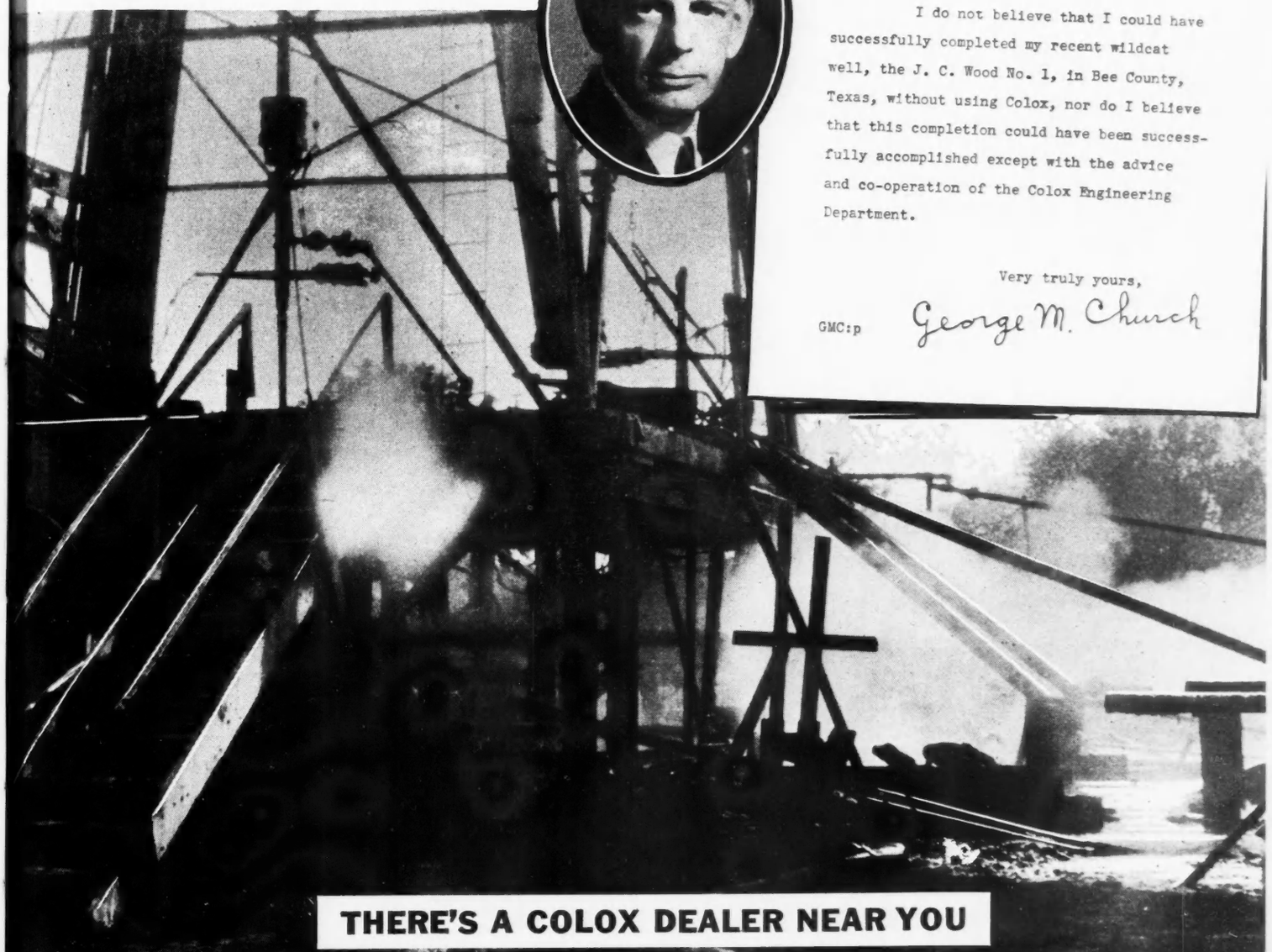
Colox Sales Service
2225 Arbor Street
Houston, Texas

Gentlemen:-

I do not believe that I could have successfully completed my recent wildcat well, the J. C. Wood No. 1, in Bee County, Texas, without using Colox, nor do I believe that this completion could have been successfully accomplished except with the advice and co-operation of the Colox Engineering Department.

Very truly yours,

GMC:p George M. Church



THERE'S A COLOX DEALER NEAR YOU

Geo. S. Mepham Corp.
2001 Lynch Ave., East Saint Louis, Ill., for Mid-Continent and Gulf Coast areas and

colox

COLLOIDAL IRON OXIDE

C. K. Williams & Co.
of California, Ltd., Shellmound Park, Emeryville for Pacific Coast area under U. S. Patent Nos. 1,575,944-5 and 1,991,637

Kala Lake was the southern limit of the dome. The resistivity map shows, on the contrary, that the fold extends toward Tiorkend; very likely, there is a second dome in this region.

In this zone shallow exploration has proved the presence of the lower Apcheron clays below the Caspian terrace. Deep drilling was in progress at the time this article was written, but it is already considered certain that an anticline is present. The only problem to be solved by drilling is to find the top of the dome and to see if it is productive or not.

Eastward, in the Ziria zone, there are several small conductive areas. They are probably not due to an anticline, but rather to Caspian clay outcrops.

Bibi-Eibat

An example of the detailed study made at sea near Bibi-Eibat is now to be given.

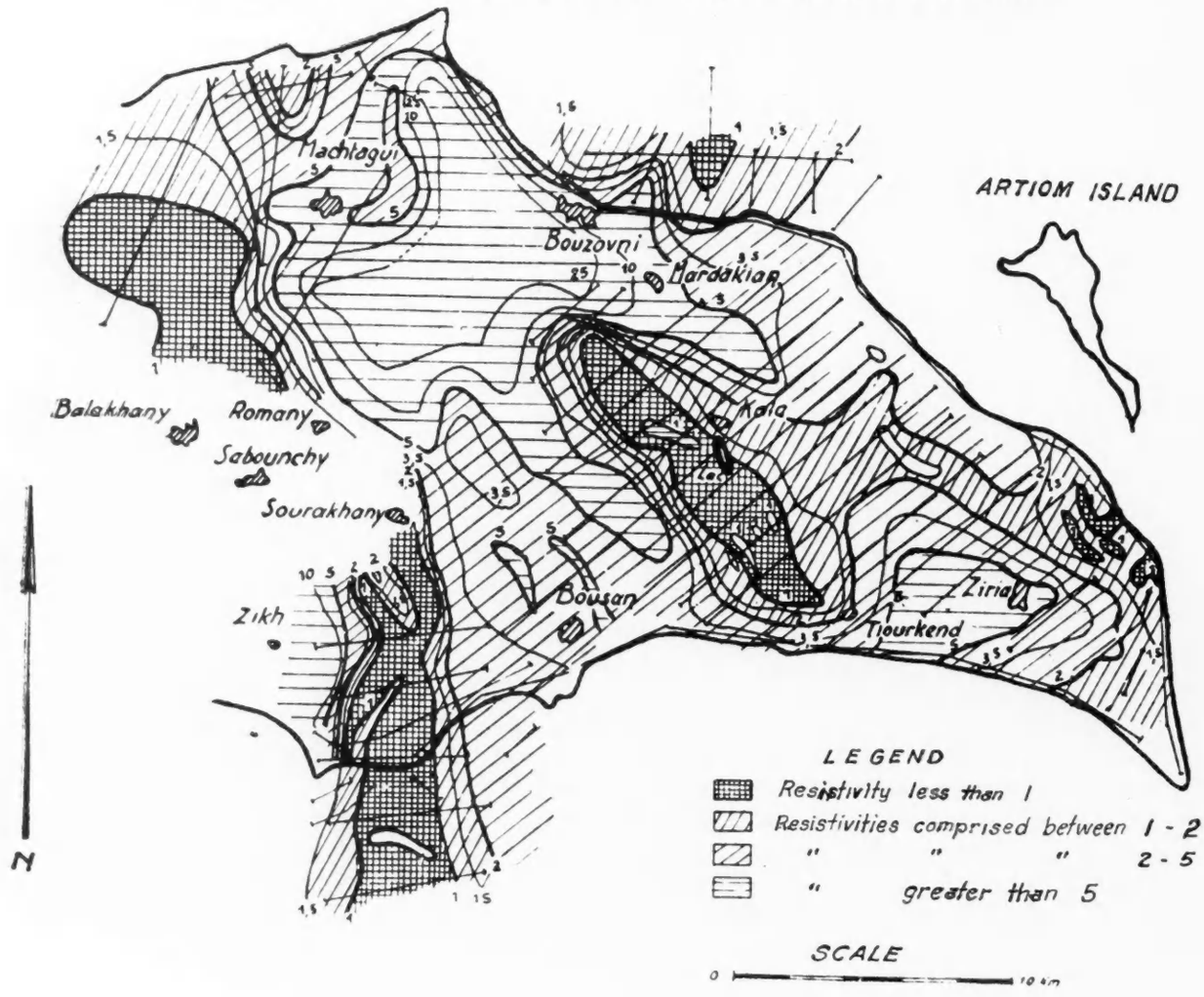
It is, to our knowledge, the first geological exploration made under the sea by electrical exploration. It is a well known fact that the field of Bibi-Eibat, one of the most important of the Bakou region, extends along the seashore. The part of the anticline situated on the land was first exploited. The contour of this zone is given by the middle Apcheron limes, the outcrop of which is traced on the accompanying map (Figure 3). The outcrop forms an abrupt cliff on the seashore. Part of the bay was then filled up to open a new exploitation zone. This is shown on the map by rectangles.

It was evidently very important to outline the limits of the exploitation zone spreading under the sea because it has a bearing on the extension of the exploitation toward the east. The problem consisted of following the outcrop of the middle Apcheron limes which, in that region, are covered up by three to seven meters of water and mud.

To take care of the particular condition of this study the technique generally used had to be somewhat modified. A special outfit had to be built with a tricable constituting a system of three electrodes AMN; AM being equal to 45 meters; MN to 10 meters and the fourth electrode B remaining on the ground playing no role in readings on account of its distance. The winch was left on the shore and the tricable was pulled by a motor boat to distances varying from 500 to 1300 meters. The cable trailing on the ground was then pulled back to the shore by means of the winch, and readings taken every 15 meters, or every five meters when it was found interesting to do so.

As might be expected, the limes, even impregnated with salt water, gave at least twice as much resist-

FIGURE 2
Resistivity map of east end of Apcheron Peninsula. Depth of investigation: 250 meters.



SINCLAIR INDEXED LUBRICATION CHARTS FOR THE NEW 1936 CARS

Sinclair engineers are preparing specialized lubrication charts for every car displayed at the 1936 Automobile Shows. These up-to-the-minute charts are Sinclair dealer guides to correct lubrication of every 1936 model—guides, also, to increased lubrication sales and more profits.

Charts for all models of all cars, new and old, are included in the Sinclair Lubrication Index—the only lubricating guide which quotes car manufacturers' recommendations as well as showing how to comply with them.

Sinclair engineers constantly cooperate with car manufacturers in developing approved lubrication charts. This cooperation by Sinclair is just one of the reasons why the Sinclair franchise is so valuable to distributors, jobbers and dealers. Get full details by writing to Sinclair Refining Company (Inc.), 630 Fifth Avenue, New York, N. Y.

SINCLAIR

Copyrighted 1935 by Sinclair Refining Company (Inc.)

SCENE at a municipal parking space. How much do 1936 cars differ from these of former years? Sinclair engineers are preparing individualized lubrication charts for every make of car shown at the 1936 Automobile Shows.

SINCLAIR ENGINEER inspecting new ultra-streamlined "Scarab" built by Stout Engineering Laboratories, prior to charting its lubrication.

ance as the adjoining clays, with the result that the lime outcrops show up as a resistant zone on the resistivity map. As a matter of fact, one can see in particular, that the lines of the northern part of the map, exposed at the Bailov Cape, extend in the sea over a distance of 2½ kilometers and appear in the form of two beds AB and A′B′. On the other hand, on the southern part, the limes of Chikhov Cape were followed on about 1200 meters along an alignment which appears to be cut by at least two small perpendicular faults. In the central zone two resistant spots C and C′ seem to indicate the lime beds were shifted to the west because the central zone seems to constitute a "graben" limited north by a transversal fault between BB′ and C, and south by a second fault cutting near D′ the outcrops of Chikhov Cape. The resistant spot of the Brovtzina shoals is due to the volcanic nature of these shoals.

Certain tectonic information given by the electrical logging in the filled up zone seems to confirm the results obtained by this submarine study.

Emba Region

The oil region of the Emba spreads from the north of the Caspian Sea to the Ural. From the west to the east, it goes from the Kazakstan border far into the Emba River. This vast region covers 70,000 kilometers which are represented from the main part, by desertic or semi-desertic steppes.

This territory is characterized by the presence of salt domes favorable to the accumulation of oil. The number of exploited salt domes is very limited: Dossor, Makat, Novo-Bagatinsk-Iskinie. But, either by geological indications, by shallow holes, or by gravimetric surveys, several hundred salt domes are known to exist.

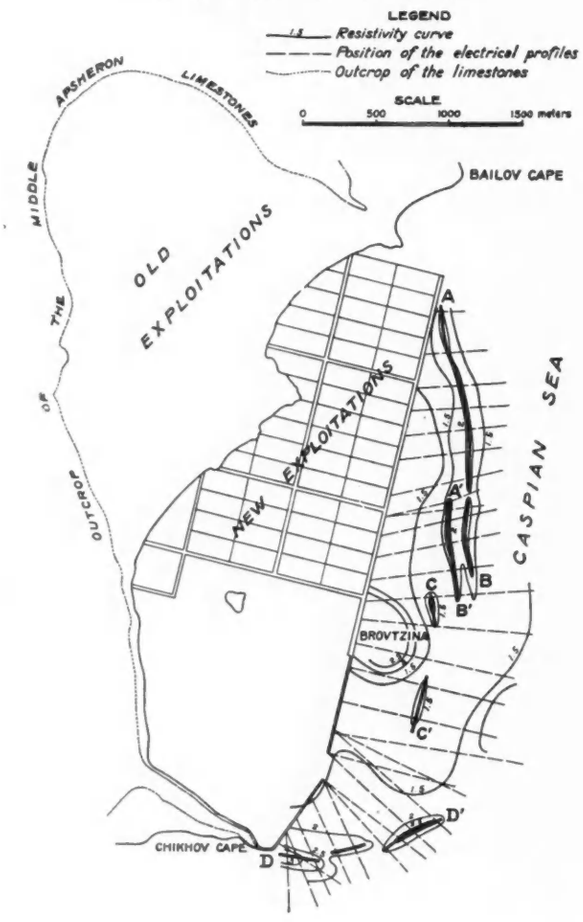
The problem to be solved by electrical prospecting was the detailed study of a certain number of those domes and, in particular, the exact determination of their flanks.

We shall not devote too much time to the description of the geological formations encountered there. They range from the Triassic to the Tertiary included and generally are overlain by recent Caspian deposits. All these formations, electrically speaking, are very salty and conductive (1 ohm-mm²). It has been possible with rather shallow study to differentiate, for example, under the Caspian overburden the senonian lines (0.8 to 2 ohms) and the cenomanian sands (0.4 to 0.8 ohms). This was done especially at Bek-Beke. But the electrical exploration rests essentially on the fact that the salt is very resistant and easy to differentiate from the other formations. The purpose of the exploration, therefore, was chiefly to outline these resistant masses encased in conductive formations.

The studies were made in the south Emba Gouriev region and in the north Emba Temir region, and finally in the zone extending between the Ural River and Volga River (Ozinki dome discovered by electrical exploration).

To be complete, we shall note that in the Emba another very important study was made; namely, the study of the path to be followed by the Gouriev-Orsk pipe line over 600 kilometers. A study by resistivities outlined the zones particularly rich in mineral salts. These zones, especially dangerous because of their corrosion possibilities have to be avoided or require a special protection of the pipe line.

FIGURE 3
Study made in Bibi-Eibat Bay.



Electrical Surveys of Drill Holes

The electrical surveys of drill holes has grown very rapidly in U.S.S.R.

This kind of survey is made now in every Russian oil field and in several of them (Azneft, Grozneft, Maineft), it constitutes the essential technique used to conduct the drilling. In the field of Azneft it even constitutes the unique method used for geological information, mechanical coring having disappeared entirely in this particular field.

We shall not study in detail this phase of electrical exploration, the technique and the results obtained having been published in several American papers.[2]

[1]Among others: "The Method of the Ground Resistivity Map and its Practical Applications," given at the Annual General Meeting, C. I. M. M., Ottawa, Ontario, March, 1931.

T. P. No. 115, "Some Applications of Potential Methods to Structural Studies," given at the New York meeting of the A.I.M.E. in February, 1928.

T. P. No. 315, "Depth of Investigation Attainable by Potential Methods of Electrical Exploration and Electrical Studies of the Earth's Crust at Great Depths," presented at the New York meeting of the A.I.M.E. February, 1929, and February, 1930.

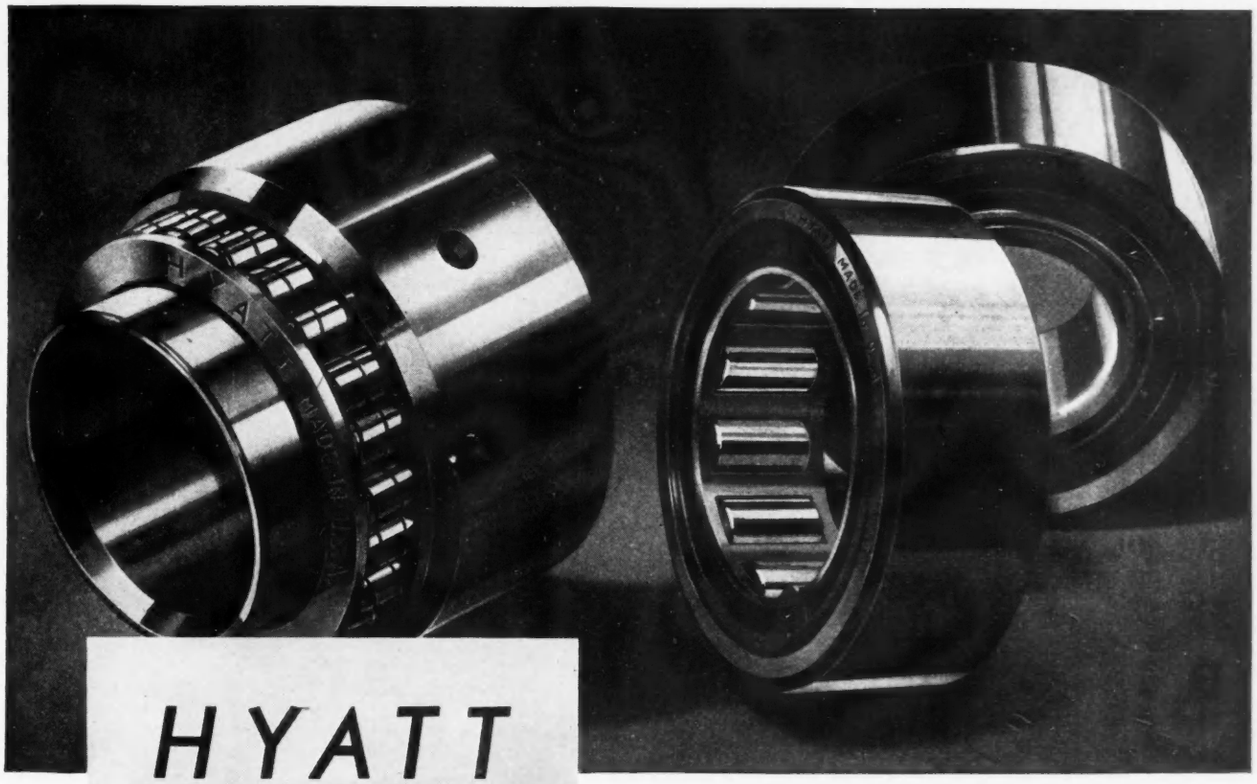
T. P. No. 407, "Electrical Exploration Applied to Geological Problems in Civil Engineering," given at the New York meeting of the A.I.M.E., February, 1931.

T. P. No. 505, "Some Observations Concerning Electrical Measurements in Anisotropic Media, and their Interpretation," A.I.M.E., 1933.

[2]T. P. No. 462, "Electrical Coring; a Method of Determining Bottom-Hole Data by Electrical Measurements," presented at the New York Meeting of the A.I.M.E., February, 1932.

T. P. No. 503, "A New Contribution to Subsurface Studies by Means of Electrical Measurements in Drill Holes," presented at the New York Meeting of the A.I.M.E., February, 1933.

Technical Paper, "Electrical Exploration of Drill Holes," presented at Mid-Year Meeting, American Petroleum Institute, Tulsa, Oklahoma, May 16, 1935.



HYATT LOCATIONS INCREASING

In all types of drilling, pumping, and miscellaneous oil field equipment, these dependable bearings carry on with the minimum of attention.

As PRODUCTION INCREASES—outworn and obsolete equipment goes into the discard. Modern efficiency and economy of operation necessitated by the new order of things demand new machinery.

Manufacturers have been busy during 1935 engineering more Hyatt Roller Bearings into their equipment. A trend which means longer equipment life—less bearing wear and care.

To those who build Hyatts into their products and those who already use Hyattized equipment we don't have to explain how well these better bearings are designed and built—they know from experience. Hyatt Roller Bearing Company, Newark, Detroit, Chicago, Pittsburgh, San Francisco.

HYATT
ROLLER BEARINGS
PRODUCT OF GENERAL MOTORS

Monday's marketing *can use more gasoline* than Sunday's trip

4 out of every 5 miles you drive *are stop-and-go*

Starting, Shifting and Accelerating waste money if your gasoline hasn't these 3 Different Kinds of Power

IT'S the *short* trips . . . to the grocer's, the meat market, the drug store, the bank, the department store . . . that eat up your gasoline!

This is easy to figure out when you consider that a short run from a "cold" start can use up a "mile" of gasoline . . . and that rapid accelerating can use 33% more gasoline than just rolling along on a straightaway!

To save yourself money on today's stop-and-go driving, you don't want a gasoline that merely STARTS quickly . . . or one that merely PULLS easily on hills . . . or one that merely gives good MILEAGE on long runs! One kind of power isn't enough!

What you really need is a gasoline that has *ALL THREE kinds of power* . . . Power for Starting —Pulling—Running. In short, you need a BALANCED gasoline!

Shell engineers now offer you the FIRST gasoline of this type . . . the FIRST truly balanced gasoline . . . especially made for today's stop-and-go driving.

Stop today at one of the 30,000 neighborly Shell stations from Coast to Coast. Fill up your tank with Super-Shell today and see for yourself how it can cut driving costs and save you money.

SAVES gasoline in 3 ways:

STARTING—This *balanced* Super-Shell can save up to a cupful of gasoline on every "cold" start. Even on sizzling days, your engine is relatively "cold" after it has stopped running.

PULLING—It can save up to a cupful in 10 minutes of rapid accelerating or hill climbing. And you avoid *knocking* which alone in a few minutes can waste 10% of your power.

RUNNING—Super-Shell can save up to a cupful, motorists report, in an hour on the long stretch—thus saving on long runs as well as on short trips.

Remember, when you save 16 cupfuls, you save a gallon!

Super-SHELL

Saves on today's stop-and-go driving

Clouds Appearing

MARKETS ARE IN DANGER AS DECLINING DEMAND IMPENDS

THE oil markets appear to be on somewhat uncertain ground. Recent improvements have pushed prices to comparatively high levels, as regards both crude and refined oils. Yet the season of diminishing consumption is at hand, and any excesses of supply would be certain to constitute serious strains on the price structure.

Consequently, whether or not prices will hold their own will depend on how strictly crude oil and gasoline production are made to conform with consumption. Also, the markets will continue to be affected appreciably by export business, which lately has been particularly brisk.

Price Sagging Threatened

Last week brought proof that the markets are on ground that may prove difficult to hold. In the East Texas district gasoline tank car prices late in the week were one eighth cent a gallon lower than a week previously. Group Three (Oklahoma) and North Texas prices, however, were holding unchanged at previous levels.

Partially responsible for the sagging of East Texas prices was the fact hot oil producing and refining were beginning to increase, after having been on a decline for several weeks. The output of such oil was estimated around 35,000 barrels daily, or about 5000 barrels higher than a week earlier. But the market weakness probably reflected also the seasonal contraction of consumption, as less favorable weather had developed in the meantime.

California Market Unstable

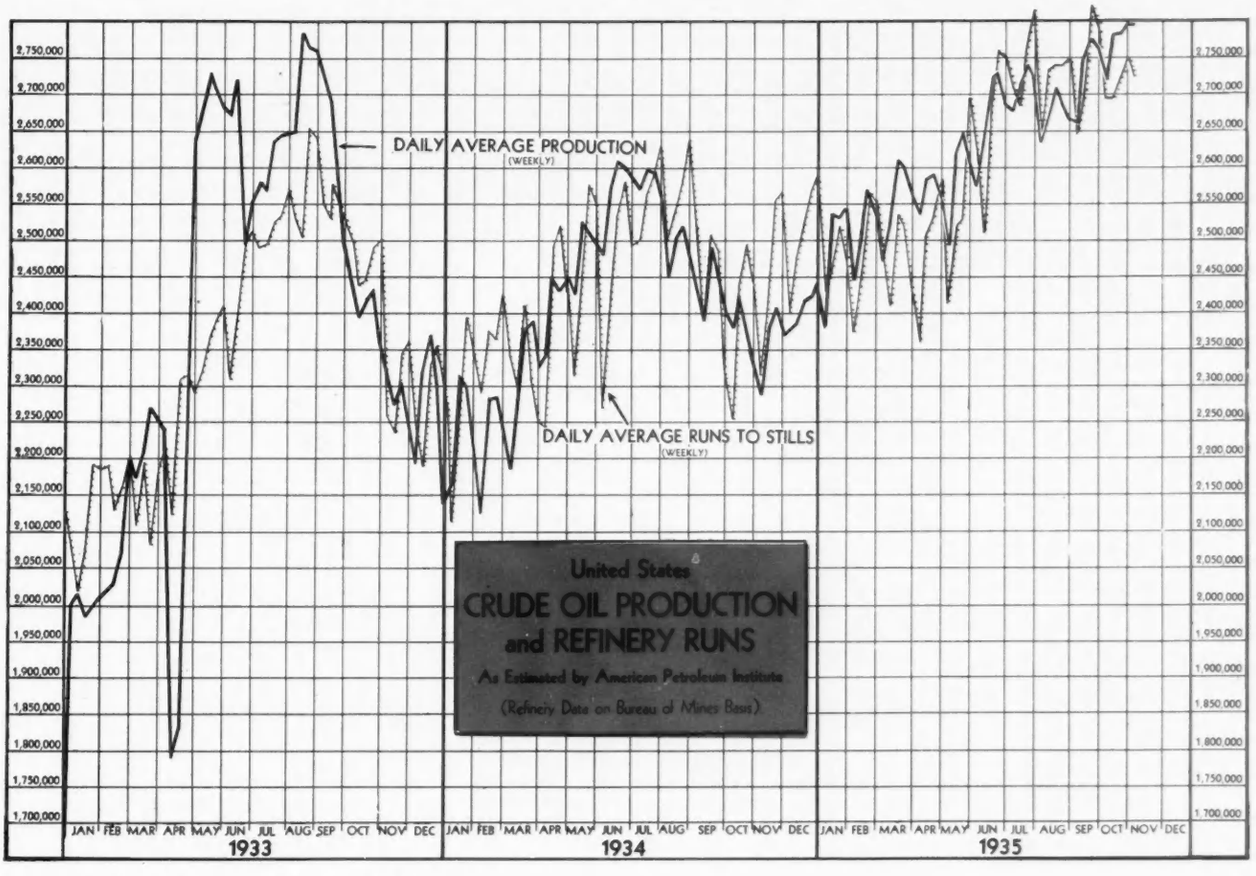
The current market structure apparently is even less firm on the Pacific Coast than in the rest of the country. If the late-August price cutting there was even partially justifiable, then the recently raised prices certainly are not invulnerable. For while excessive crude production was given as the reason for the August price reductions, the present production is materially higher than that in August. During the week ended November 2 the state's output averaged 664,000 barrels daily, as compared with 595,700 barrels daily in the week ended August 31. For the four weeks ended August 31 the California output averaged 600,750 barrels daily. Thus the recent week's production was more than 60,000 barrels per day higher than the August rate, that precipitated a price cut.

Michigan Price Raised

While gasoline prices are generally in precarious position, with crude prices on the West Coast similarly situated, the crude markets east of California appear to be comparatively stable. In fact, the past week brought a 10-cent increase for Michigan crude. Pure Transportation Company, large buyer in central Michigan fields, raised its posting to $1.12 a barrel from $1.02. That was the first price change in the state for about two years. About 10 days previously Pennsylvania grade crudes had been raised 15 cents.

Gasoline Market Weaker

Following the one eighth-cent per gallon decline from the previous week's levels, the tank car prices prevailing in East Texas on U. S. Motor gasoline last week were as follows: 4⅝ cents a gallon for third grade, below 62 oc-



tane; 5⅛ cents for standard grade, 62-67 octane; and 5½ cents for premium grade, 68-70 octane. Having remained unchanged, the corresponding prices in North Texas and Oklahoma were one eighth-cent a gallon higher than in East Texas.

Kerosene prices held unchanged in the meantime in all districts of the Mid-Continent, continuing at 3¼ cents a gallon in East Texas and North Texas and at 3⅜ cents in Oklahoma.

REVISE OIL PRICES

California purchasers now have same prices

UNION Oil Company effective November 1 announced a new crude oil price schedule, meeting the schedule previously announced by Standard Oil Company of California, which was lower than the schedule announced by Union Oil Company some two weeks ago. In this manner, all large crude oil purchasing companies in the state are now using the same posted prices.

Independent service stations in California are slow in boosting their retail gasoline prices in keeping with new and higher prices announced by the major companies. In Southern California, third grade gasoline has a retail price of 13.5 cents and attempts are being made to bring the selling price of independent refiners to 12.5 cents, but a recent check indicated that only about 40 percent of the smaller stations had adopted the new 12.5 cent price. It is known that practically every service had kept its tanks full of cheap gasoline and until this supply is exhausted, is it doubted if the smaller stations will boost their prices.

Smaller California refiners are making every effort to increase gasoline prices in keeping with new and higher prices announced by the major companies and it is felt some success will be had within the next week or ten days, as soon as storage of cheap gasoline has been moved.

The higher crude prices so far have had no effect on asking prices for either gasoline or fuel oil for export. Former prices were rather firm, and there is now no chance for California refiners to compete with present prices on the East Coast, due to tanker rates. California refiners had rather fill their empty storage than to ship at prices offered.

East Texas Tank Car Shipments

Week ending November 3, 1935

Products	No. Cars	Estimated Gallons
Gasoline	630	5,168,403
Fuel oil	236	2,245,799
Casinghead gasoline	213	1,842,320
Distillate	66	533,941
Crude oil	51	477,454
Topped crude	37	331,609
Kerosene	32	257,240
Residuum	24	193,757
Gas Oil	13	106,611
Naphtha	10	76,810
Total	1,312	11,233,944
Total previous week	1,087	9,315,275
Intrastate	485	
Interstate	430	
Coastwise	397	
Total	1,312	

Tulsa.—R. Claire Coffin, member of the geological staff of Stanolind Oil & Gas Company and formerly chief geologist with the Midwest Refining Company at Denver, spoke to the Tulsa Geological Society on Monday evening, November 4, presenting, "Peculiarities in Oil and Gas Distribution in Fields of the Rocky Mountain Area."

RECORD STILL RUNS

September crude runs to stills establish new high

WASHINGTON, D. C.

A NEW all-time record high in daily average crude runs to stills was recorded by the oil industry in September at 2,778,000 barrels, 49,000 barrels above the average for August and 324,000 barrels, or 13 percent, over that of September, 1934, it is disclosed by figures compiled this week by the Bureau of Mines.

As against crude runs to stills of 83,347,000 barrels, receipts for the month were but 82,098,000 barrels, the bureau reported, of which domestic oil constituted 79,190,000 barrels and foreign oil 2,908,000 barrels. The daily average of receipts of domestic crude, 2,640,000 barrels, showed an increase for the month, but those of foreign, 97,000 barrels, were lower.

The need for crude for the heavier runs was made up by withdrawals from stocks, as a result of which stocks declined from 63,300,000 barrels on September 1 to 61,532,000 barrels September 30.

ITALY SEEKS OIL

Said to be trying to buy big supply in East Texas

AGENTS of Premier Mussolini are endeavoring to contract for 50,000,000 barrels of East Texas crude oil for use in the Italian campaign, according to an Associated Press wire quoting the Dallas Times Herald. A prominent Dallas oil man was credited last week with saying that the Italian agents were offering $1.15 per barrel for crude oil delivered on the Gulf Coast, to be shipped to Germany and forwarded from that country to Italy, over a two-year period.

The agents were said to be interested in the East Texas crude because of its suitability for manufacture of high grade gasoline, so necessary for the air force serving in the Ethiopian campaign. The country's needs for the low gravity oil are being filled by Roumania, it was indicated.

The oil man giving out the interview said he had not entered into any contract with the Italians, being unwilling to obligate himself on such a long-term basis.

Summary of Wells Completed in the United States Week Ending November 2, 1935

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1935	Total Completions this date 1934
Alabama	...	...	...	...	.....	4	3
Arkansas	4	1	...	3	35	112	72
California	13	10	3	...	4180	734	353
Colorado	1	1	...	...	140	10	20
Illinois	...	...	...	...	.....	9	14
Indiana	...	...	...	...	.....	170	130
Kansas	29	22	...	7	39,116	1,196	782
Kentucky	5	3	...	2	114	149	220
Louisiana	12	8	1	3	20,814	611	656
Michigan	8	3	2	3	460	470	395
Mississippi	...	...	...	...	.....	18	34
Montana	10	5	1	4	961	144	165
New Mexico	4	4	...	...	25,307	236	97
New York	...	...	...	...	.....	...	4
Ohio	51	11	22	18	117	1,250	874
Oklahoma	37	25	1	11	37,977	2,015	1,572
Pennsylvania	4	...	2	2	.....	113	256
Texas	241	172	6	63	466,047	9,987	8,213
Utah	...	...	...	...	.....	1	3
W. Virginia	18	5	11	2	56	424	338
Wyoming	1	1	...	...	350	60	40
Total this week	438	271	49	118	595,674	17,713	14,347
Total last week	402	288	34	80	464,788	...	...
Total this year	17,734	11,658	1,489	4,587	32,950,013	...	...

Comparison of Permits Granted for New Wells

STATE	Week Ending Nov. 2	Total this Mo.	Total this Year	Total this Date Last Year	1934 Year Total
Arkansas	2	2	53	66	100
California	16	16	828	488	629
Louisiana	..	..	...	706	799
Kansas	29	29	993	830	1,015
Michigan	15	15	627	391	460
Oklahoma	53	53	1,929	1,701	2,045
Texas	243	243	9,437	8,776	10,550
Total	358	358	13,867	12,958	15,598

PRODUCTION UP

Output in United States gains 23,275 barrels

CRUDE oil production in the United States for the week ending November 9 reached a daily average of 2,801,900 barrels to record a gain of 23,275 barrels over the daily output of the previous week. Texas showed a slight gain, while the Pacific Coast recorded a material rise to be responsible for the nation's increase. Both Oklahoma and Kansas declined. The total output was 238,200 barrels over the November market demand as estimated by the Bureau of Mines.

The crude output in California responded to the market advances on the West Coast with 19,500 barrels per day over the daily output of the previous week. Long Beach and Playa del Rey were the only two fields to not show an increase in the output, while Kettleman Hills and Midway-Sunset made material gains. The state as a whole had a daily average of 682,500 barrels, which was 177,500 barrels over the indicated demand estimate. In the face of rising crude prices this presents a peculiar situation from the standpoint of the producer.

Oklahoma as a whole presented but little change in production from that of the previous week, although the Oklahoma City field was nearly 10,000 barrels higher and there were several other noticeable changes. The daily average of 490,575 barrels was 1825 barrels under the previous week and 1425 barrels under the market demand estimate.

The daily average output in Texas was only slightly higher than in the previous week, with the drop in East Central Texas more than offset by gains made in the South Texas district. The state had an average of 1,025,400 barrels per day, which was only 1600 barrels over the indicated market demand figure. The most significant change in Texas production occurred in the output and refining of hot oil in the East Texas field. This is the first week, since more stringent measures were taken with the appointment of a new proration chief, that the output has failed to fall below that of the previous week.

In Kansas was found a material drop in production with most all the fields participating. The comparatively new fields of Lorraine and Oxford were the leaders in the decline, and the state fell 14,150 barrels under the output of the previous week and 7625 barrels under the November demand estimate.

Louisiana and Arkansas were both increased a little over the crude output of the previous week. Arkansas production conforms rather closely to the market demand figure, but Louisiana is in excess of the November estimate by some 35,500 barrels.

In the remaining sections of the country the Eastern States showed a material gain to reach an average of 111,000 barrels per day over the previous week to resume the upward trend in production which was checked the preceding week for the first time in several periods. Daily production in Michigan now exceeds the indicated market demand estimate by some 15,100 barrels.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	BARRELS DAILY FOR WEEK ENDING November 9	November 2
TEXAS—		
Texas Panhandle	55,600	55,500
North Texas	59,100	59,100
West Central Texas	25,500	25,500
West Texas	155,400	155,300
East Central Texas	44,800	45,500
*East Texas Field	430,400	429,100
†South Texas	61,200	60,700
†Texas Gulf Coast	193,400	193,600
*Total Texas	1,025,400	1,024,300
OKLAHOMA—		
Oklahoma City	144,200	134,425
Seminole Area	115,200	120,300
Tatums	4,200	4,250
Lucien	10,100	9,800
Fitts	25,025	33,375
Edmond	8,675	5,700
Others	183,175	184,550
Total Oklahoma	490,575	492,400
KANSAS—		
Ritz-Canton	6,650	8,325
Voshell	3,300	3,475
Nikkel-Hollow	5,150	5,825
Sedgwick	6,700	6,750
Oxford	5,100	9,275
Burrton-Haury	16,425	15,875
Lorraine	8,675	11,175
Others	83,675	89,125
Total Kansas	135,675	149,825
LOUISIANA—		
North Louisiana	32,800	32,800
Louisiana Gulf Coast	127,800	124,200
Total Louisiana	160,600	157,000
ARKANSAS	29,500	29,180
CALIFORNIA—		
Long Beach	76,500	77,000
Santa Fe Springs	55,500	55,500
Huntington Beach	45,000	44,500
Dominguez	22,500	21,500
Inglewood	14,500	12,500
Ventura Avenue	38,000	37,000
Seal Beach	7,000	6,500
Midway-Sunset	60,000	56,500
Elwood	16,500	14,500
Kettleman Hills	115,500	109,000
Mountain View	38,000	37,000
Playa del Rey	18,000	18,000
Others	175,500	173,500
Total California	682,500	663,000
MOUNTAIN STATES—		
Wyoming	37,000	40,400
Montana	13,000	13,000
Colorado	4,350	4,350
Total Rocky Mountain States	54,350	57,750
NEW MEXICO	56,800	56,800
EASTERN STATES	111,000	106,200
MICHIGAN	55,500	54,600
*Total United States	2,801,900	2,778,625
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	35,000	30,000
Grand Total, including surreptitious production	2,836,900	2,823,625

†Coastal District of South Texas included with Texas Gulf Coast.

Crude Runs to Stills, Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks, and Cracked Gasoline Production, Week Ended November 2, 1935

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Dailey Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(*) Stocks of Unfinished Gasoline	(†) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term., in Trans. & Pipe Lines	Total at Refys. Term. etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	612	612	100.0	498	81.4	4,105	7,664	11,769	815	195	12,767	534	534	100.0	108
Appalachian	154	146	94.8	98	67.1	1,035	775	1,810	244	80	927	79	78	98.7	24
Ind., Ill., Ky.	442	424	95.9	384	90.6	3,966	3,560	7,526	561	45	4,274	349	348	99.7	113
Okla., Kans., Mo.	453	384	84.8	229	59.6	2,510	1,657	4,167	409	730	4,812	256	228	89.1	64
Inland, Texas	330	160	48.5	92	57.5	969	49	1,018	200	1,660	1,603	148	105	70.9	25
Texas Gulf	617	595	96.4	520	87.4	4,675	243	4,918	1,501	115	11,357	399	393	98.5	133
Louisiana Gulf	169	163	96.4	119	73.0	551	330	881	260	.....	4,804	77	74	96.1	24
North La.,—Ark.	80	72	90.0	42	58.3	162	57	219	49	190	504	46	44	95.7	8
Rocky Mountain	97	60	61.9	37	61.7	604	.....	604	101	105	803	46	39	84.8	14
California	852	789	92.6	529	67.0	6,288	2,158	8,446	1,023	1,930	66,590	280	280	100.0	55
TOTALS WEEK: November 2, 1935	3,806	3,405	89.5	2,548	74.8	24,865	16,493	41,358	5,163	5,050	108,441	2,214	2,123	95.9	568
October 26, 1935	3,806	3,405	89.5	2,575	75.6	24,441	16,722	41,163	5,246	5,145	108,235	2,214	2,123	95.9	563

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week November 2, 1935 compared with November 1934 Bureau figures.

Estimate B. of M. Basis, November 2, 1935	2,725		605
Estimate B. of M. Basis, October 26, 1935	2,750		600
U. S. B. of M., November, 1934: Daily Average Crude Runs	2,446	U. S. B. of M., November, 1934: Daily Average Cracked Prod.	520

(*)Amount of Unfinished Gasoline contained in Naphtha Distillates.
(†)Estimated. Includes Unblended Natural Gasoline at refineries and plants; also Blended Motor Fuel at plants.

RAIL TRAFFIC HIGHER

Gasoline shipments from East Texas plants rise

ANK car shipments of refined oil and miscellaneous products from East Texas have recovered from low levels sustained in mid-October, with a substantial increase noted in the movement of products restricted to Texas markets.

For the week ending November 3 car loadings totaled 1312, bearing approximately 11,233,944 gallons of 10 separate commodities. This movement exceeded the previous week by 225 cars, with gasoline and fuel oil accounting for the bulk of the gain.

The current report on rail shipments involved 630 cars, or about 5,168,403 gallons of gasoline, including 145 cars consigned to Texas points, as compared with 3,907,274 gallons in 480 cars the previous week.

MICHIGAN PRICES UP

Mt. Pleasant, Mich.—Reflecting recent improvement in other states and a stronger market demand in Michigan, the crude price postings for Michigan fields were increased November 7 from $1.02 to $1.12 a barrel. The change was the first in the state for about two years.

The 10-cent price increase was initiated by Pure Transportation Company, and it subsequently was met by other buyers, including Simrall Pipe Line Corporation, Mid-West Pipe Line Company, McClanagan Pipe Line Company, and Naph-Sol Pipe Line Company.

I. P. A. A. Meeting

[*Continued from page 10*]

launched for the purpose of crippling the effectiveness of the body.

Other officers of the association were re-elected, and are as follows: Harold B. Fell, Ardmore, Oklahoma, executive vice president; N. T. Gilbert, Tulsa, treasurer; Russell B. Brown, Washington, general counsel; C. E. Buchner, Tulsa, executive manager. T. J. Steuart, Washington, was retained as assistant to the president.

Members of the executive committee, which was increased from seven to 11 by adding the president, past president, executive vice president and treasurer as ex-officio participants, includes: J. Steve Anderson, Oklahoma City; H. D. Atha, Mt. Pleasant, Michigan; J. S. Bridwell, Wichita Falls; Marvin Lee, Wichita, Kansas; W. R. Nicholson, Longview, Texas; H. M. Stalcup, Tulsa; Ralph Zook, Bradford, Pennsylvania; Wirt Franklin, Oklahoma City, as the retiring president; and the three officers.

Each of the oil producing states and those with membership were given representation on the list of regional vice presidents, with Oklahoma and Texas allotted two and four, respectively, and are as follows: Arkansas, J. H. McFarland, El Dorado; California, B. A. LaSalle, San Diego; Colorado, Warrick Downing, Denver; Georgia, Wiley L. Moore, Atlanta; Illinois, T. B. Steele, Robinson; Indiana, Don Kirk, Terre Haute; Kansas, Gene Moriarity, Wichita; Kentucky, Paul G. Blazer, Ashland; Louisiana, W. Scott Heywood, Jennings; Massachusetts, A. A. C. Malcom, Haverhill; Michigan, H. D. Atha, Mt. Pleasant; Missouri, Harry Ezzell, St. Louis; Montana, William Fulton, Shelby; New York, D. L. Sweeney, Buffalo; Ohio, John P. Gordon, Columbus; Oklahoma (east), C. P. McMahon, Tulsa, (west), Frank Buttram, Oklahoma City; New Mexico, Van S. Welch, Artesia; Pennsylvania, T. O. Grisell, Bradford; Texas (southeast), Marrs McLean, Beaumont, (southwest), Ed. M. Jones, San Antonio, (northwest), Roy A. Westbrook, Fort Worth, (northeast), Bryan W. Payne, Tyler; Washington, Tyler A. Rogers, Wenatchee; West Virginia, W. S. Hallanan, Charleston; and Wyoming, V. M. Kirk, Frannie.

Oklahoma City was authorized the next annual meeting, while Tulsa was allotted the midyear meeting to be held next May in conjunction with the oil exposition. Headquarters of the association will be retained at Tulsa, while a district office at Washington will be continued.

CRUDE OIL PRICE QUOTATIONS

(Figures Represent Basic or Flat Prices—Revised to November 8, 1935)

DISTRICT	Low Grav.	Dif.	High Grav.	Date
Oklahoma-Kansas	28—$ .84	2¢	40—$1.06	9-29-33
N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
Texas Panhandle				
Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Ector, Pecos, W'kler	*.75			9-29-33
Crane, Upton, Howard and Glasscock	*.70			9-29-33
East Texas	*1.09			9-29-33
Texas Gulf Coast				
Anahuac-Dickinson	30— .94	2¢	40— 1.14	8-29-35
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and S. W. Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	*.80			6-29-35
Saxet	*.80			6-29-35
Mirando	*.75			6-29-35
Pettus	*1.06			9-29-33
Salt Flat	*.87			9-29-33
Darst Creek	*.87			9-29-33
Port Lavaca	*.97			
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	40— 1.03	2-17-34
El Dorado East Field and Smackover	*.70			9-30-35

* All gravities—flat rate.
† Gulf Coast prices as posted by Humble Oil & Refining Company.

DISTRICT	Low Grav.	Dif.	High Grav.	Date
North Louisiana	29— .79	2¢	40— 1.08	9-29-33
Urania	*.85-*.87			1- 1-34
South Louisiana	Below			
Lockport	20— .80	2¢	34— 1.10	9-29-33
Iowa, Cameron Mds.	Below 20— .70	2¢	34— 1.00	9-29-33
Rocky Mountain States				
Salt Creek	29— .84	2¢	40— 1.08	9-29-33
Elk Basin	*1.17			9-29-33
Grass Creek (Light)	*1.17			9-29-33
Big Muddy	*1.01			9-29-33
Rock Creek	*1.02			9-29-33
Sunburst	*1.20			7-19-35
Lance Creek	*1.02			8-25-33
Osage	*.62			8-25-33
Cat Creek	*1.07			8-25-33
Cut Bank	*1.45			9-29-33
Ponders	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	*.75			9-29-33
Mid-West States				
Lima	*1.15			2- 1-35
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.13			5-23-35
Pennsylvania				
Bradford	*2.15			9- 6-35
Sw. Pa. Pipe Line	*1.87			9- 6-35
Eureka Pipe Line	*1.82			9- 6-35
Buckeye Pipe Line	*1.67			7-16-35
Corning Grade	*1.32			10- 2-33
Michigan				
Central Michigan	*1.12			11-7-35
Muskegon	*.70-1.00			12-31-32
Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

* All gravities—flat rate.

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
March 5, 1933	.....	.....	Cut 24
May 2, 1933	.....	Cut 19	.....
May 9, 1933	Cut 20	.....	.....
May 22, 1933	Up 10	.....	.....
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Reduced
September 6 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Raised

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 percent of gross market values.

Montana—Three percent of gross value at well and ½-cent per barrel.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

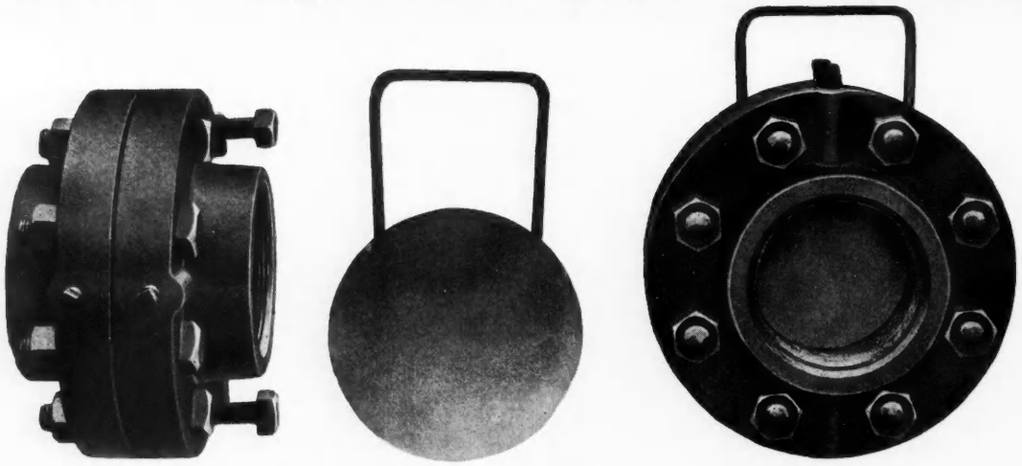
* All gravities—flat rate.

CALIFORNIA

(All gravities above those quoted take lowest price offered in that field Effective November 1, 1935)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canon	Athens Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habre	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Mountain View	Midway Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$ .75	$ .74	$ .73	$ .74	$ .75	$ .71	.....	.....	$ .75	$ .71	$ .71	$ .72	$ .72	.....	$ .65	.....	$ .65	$ .65	$ .65	.....
15-15.9	.75	.74	.73	.74	.75	.71	.....	.....	.75	.71	.71	.72	.72	.....	.65	.....	.65	.65	.65	.....
16-16.9	.75	.74	.73	.74	.75	.71	.....	.....	.75	.71	.71	.72	.72	.....	.65	.....	.65	.65	.65	.....
17-17.9	.75	.74	.73	.74	.75	.71	.....	.....	.75	.71	.71	.72	.72	.....	.65	.....	.65	.65	.65	.....
18-18.9	.75	.74	.73	.74	.75	.71	.....	.....	.75	.71	.71	.72	.72	.....	.65	.....	.65	.65	.65	.....
19-19.9	.75	.74	.73	.74	.75	.71	.....	.....	.75	.71	.71	.72	.72	.....	.65	$ .65	.65	.65	.65	$ .65
20-20.9	.75	.74	.73	.74	.75	.71	.....	.....	.75	.71	.71	.72	.72	.....	.....	.65	.65	.65	.65	.65
21-21.9	.75	.74	.73	.74	.76	.71	.....	.....	.75	.71	.71	.72	.72	$ .73	.....	.65	.66	.67	.65	.65
22-22.9	.75	.74	.73	.75	.78	.72	.....	.....	.75	.71	.71	.72	.72	.73	.....	.65	.67	.68	.66	.65
23-23.9	.75	.74	.74	.76	.79	.73	$ .75	.....	.76	.71	.72	.73	.72	.73	.....	.65	.69	.70	.67	.65
24-24.9	.77	.74	.75	.77	.81	.74	.75	F.O.B. Ship	.77	.72	.74	.74	.73	.73	.....	.65	.71	.71	.69	.65
25-25.9	.78	.75	.76	.78	.82	.75	.76		.78	.73	.....	.75	.74	.73	.....	.66	.72	.73	.70	.66
26-26.9	.79	.76	.78	.79	.83	.76	.77		.79	.74	.....	.76	.75	.73	.....	.67	.74	.74	.....	.....
27-27.9	.80	.78	.79	.80	.....	.77	.79		.....	.75	.....	.....	.77	.74	.....	.68	.76	.76	.....	.....
28-28.9	.81	.79	.80	.81	.....	.79	.80		.....	.76	.....	.....	.78	.75	.....	.70	.77	.77	.....	.....
29-29.9	.82	.81	.81	.82		.....	.82		.....	.78	.....	.....	.79	.77	.....	.71	.79	.78	.....	.....
30-30.9	.83	.83	.82	.83		.....	.83		.....	.....	.....	.....	.80	.78	.....	.72	.81	.80	.....	.....
31-31.9	.....	.....	.....	.84		.....	.84		.....	.....	.....	.....	.81	.79	.....	.74	.83	.....	.....	.....
32-32.9	.....	.....	.....	.85		.....	.86		.....	Kettleman Hills			.82	.81	.....	.75	.84	.....	.....	.....
33-33.9	.....	.....	.....	.....	F.O.B. or Pipe Line	.....	.....	$ .84	.....	$ .81			.83	.82	.....	.76	.86	.....	.....	.....
34-34.9	.....	.....	.....	.....		.....	.....	.85	.....		.83		.85	.83	.....	.77	.....	.....	.....	.....
35-35.9	.....	.....	.....	.....		.....	.....	.86	.....		.84		.....	.85	.....	.....	.....	.....	.....	.....
36-36.9	.....	.....	.....	.....		.....	.....	.88	.....		.86		.....	.86	.....	.....	.....	.....	.....	.....
37-37.9	.....	.....	.....	.....		.....	.....	.89	.....		.87		.....	.87	.....	.....	.....	.....	.....	.....
38-38.9	.....	.....	.....	.....		.....	.....	.....	.....		.88		.....	.89	.....	.....	.....	.....	.....	.....
39-39.9	.....	.....	.....	.....		.....	.....	.....	.....		90		.....	.....	.....	.....	.....	.....	.....	.....

"MECO" Forged Steel Orifice Flange Unions



Complete 4" 500-lb. Orifice Flange and plate assembly is shown above. Note the rugged design and dual differential connections on each flange.

• **Orifice Flanges in sizes 2", 4" and 6", for 250-lb. and 500-lb. pressures are carried in stock. Larger sizes in the above named pressure ranges, as well as any size for any pressure, are furnished promptly on order.**

MAINTENANCE ENGINEERING CORP.

1400 CONTI STREET Phone P-6338 - L.D.-409 HOUSTON, TEXAS

★

OTIS
Removable Casing Plugs

The illustration shows 6⅝", 5¾" and 4¾" Removable Casing Plugs for a recent export shipment. These Removable Casing Plugs are made with the same precision, the same factor of safety, and along the same general lines as the Otis Removable Bottom Hole Choke. They are used to temporarily plug casing under pressure in the same manner as the Otis Removable Bottom Hole Choke is often used to plug tubing. Available, along with Running and Pulling Tools, in any size.

The SOUTHERN STATES CO. Inc.

A Service Company Specializing in Pressure Control

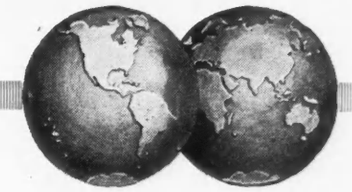
TOWER PETROLEUM BLDG. DALLAS, TEXAS

BRANCHES

Oklahoma City, Okla. Hobbs, New Mexico Houston, Tex.

★

WORLD DEVELOPMENTS and TECHNOLOGY



Edited by
WM. V. GROSS, Associate Editor

Seek Paleozoic

TWO IMPORTANT TESTS IN WESTERN EUROPE

Two important test wells are drilling in Europe to develop Paleozoic production, according to a letter received by THE OIL WEEKLY recently from Dr. W. A. J. M. van Waterschoot van der Gracht, formerly prominent in geological circles of the United States and now engaged in a consulting capacity for the above work.

One of the tests is near Ascheberg, south of Munster in Westfalia, and the other is near the village of Moll, in the Belgian Campine. The Ascheberg well is located on subsurface anticline characterized by strong showings of wet petroleum gas.

Portions of Dr. van der Gracht's letter follow:

"An interesting development in European exploration is the search for oil and gas in the upper-Carboniferous foreland zone, bordering the front of the Permo-Carboniferous (Variscide) chains in Belgium and in Westfalia. This idea has been stimulated by the similarity of source and reservoir sediments and general geologic and structural conditions with the Appalachian oil and gas belt in Pennsylvania and West Virginia, which extends along the outer front of the very similar Appalachian Mountains, of about the same age as the old European mountains south of the coal fields of Westfalia and Belgium. A more or less similar condition repeats itself in Oklahoma and Texas.

"Evidently a search of this nature can only be made at a certain distance from the strongly folded and overthrust mountain front, where regional metamorphism has not unfavorably affected eventual oil deposits. In the zone worked by coal fields the sequence is still devoid of oil and is only moderately gas bearing, whilst most of these gases apparently originate from the coal seams.

"Contrary to conditions prevailing in North America, exploration on the European continent is handicapped by the great thickness of Mesozoic, and locally also Tertiary sediments which overlie the Carboniferous, a thickness which soon reaches 4000 to 5000 feet, making deep drilling imperative and structural subsurface work difficult.

"On the other hand certain locally concentrated asphalt deposits and seepages of gas, confirmed by blowouts of wet gas and even oil showings in several older and not sufficiently deep wells, drilled for coal, are encouraging.

"The source beds must be sought in the lower-Carboniferous. They seem at least as promising as those in the Appalachian oil belt of America, notably in the region where these strata are developed in the so-called culm facies. The source region can scarcely be reached even by modern drilling for petroleum, which now reaches depths of 12,000 feet, but accumulation is expected in sandstones of the coal measures. This seems justified since petroleum gases permeate even the Cretaceous, and in a few localities on the foreland actual oil has been encountered in coal measure sandstones.

"At present two important test wells are drilling, the one near Ascherberg, south of Munster in Westfalia, on a subsurface anticline, characterized by a concentration of strong showings (even blowouts) of wet petroleum gas, including a 30-year old well which, although in very poor condition, still yields gas at 400 pounds pressure. The other well is near the village of Moll, in the Belgian Campine. Both test wells are a considerable distance north of the zone worked by coal mines. They are of the most modern type, equipped with machinery which will enable the operators to reach the greatest depths modern technique permits, if such should be required.

"Both wells have now reached a depth of around 3000 feet. The one in Belgium has just reached the Carboniferous, the one in Westfalia is drilling in the basal Cretaceous, a short distance off the Paleozoic. Both wells have already shown very considerable gas; in one of them special precautions had to be taken against a threatened blowout.

"Powerful independent capital is back of this research work, which is directed by F. J. G. Vingerhoets and advised by the writer in a consulting capacity. Several other tests are planned on suitable blocks of acreage already assembled."

SEEPAGE IN SPAIN

In answer to a query concerning the authenticity of reports that a new oil field had been found in the Province of Santander, near San Mames, Spain, a letter has been received from Dr. Francisco Hernandez-Pacheco of the University of Madrid, stating the discovery is considered nothing more than a seepage.

Items previously published said engineers had estimated the productive area of the new find at 180 acres and that samples from the first well drilled had been taken to the University of Madrid for analysis.

Dr. Hernandez-Pacheco's letter to THE OIL WEEKLY follows:

"In reality this is considered nothing but a seepage of oil issuing from the limestone marl in the secondary formation of the Lower Cretaceous as found in the Province of Santander, but is without commercial interest, at least up to the present."

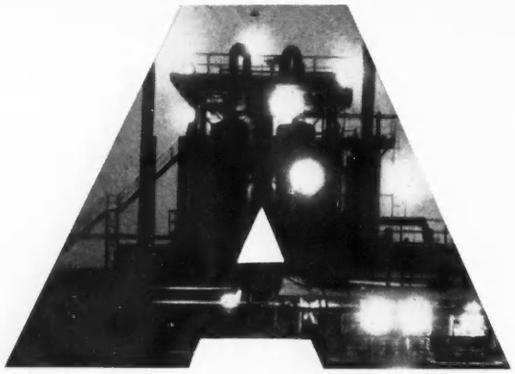
NO SHALE EXCISE DUTY

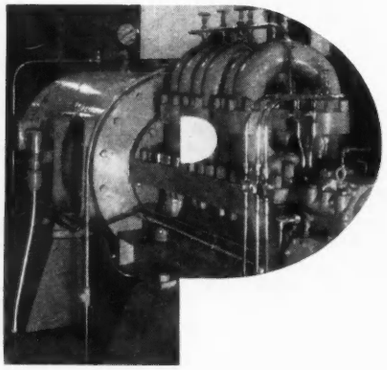
Prime Minister Lyons of Australia recently announced to the house of representatives in Canberra, F.C.T., Australia, there will be no excise duty for five years on petrol derived from Australian coal or shale, according to a letter received by THE OIL WEEKLY from F. E. Levy, manager of Western Petroleum No Liability.

According to Mr. Levy, the exemption amounts to six pence per gallon, considerable of an inducement. The report of experts of Anglo-Iranian Oil Company, sent out by Sir John Cadman to look over possibilities of retorting shale on a commercial basis, however, was not favorable.

The prime minister is quoted as stating the government had considered representations that the shale oil bounty act should be re-enacted, and its provisions extended to coal oil, but that the government did not believe a bounty would assist in achieving efficiency of production and that it might result in loss of private capital and waste of government funds.

Federal Territory and New South Wales governments are considering reports of experts on the Newnes shale field. In this connection, the prime minister pointed out that it was essential,





● The AMERICAN PETROLEUM INSTITUTE, assembled this week in annual convention at Los Angeles, is pledged the enthusiastic co-operation of the PETROLEUM ELECTRIC POWER CLUB in any and all movements to further the interests of any branch of the petroleum industry.

PETROLEUM ELECTRIC POWER CLUB

SAVE WITH ELECTRIC POWER
PETROLEUM ELECTRIC POWER CLUB

if the industry was to be developed on a sound basis, that a company with high engineering and technical knowledge should undertake the development. Both governments are willing to provide such a company with financial and other assistance, the prime minister is quoted as saying.

To L. J. Rogers, fuel advisor to the commonwealth, is attributed the statement that it will be at least 12 months before enough is known about applicability of the hydrogenation process to determine whether it would be advisable to erect such a plant in Australia. He is said to have argued it would be folly to spend approximately 10 million pounds until the process had been properly tried out.

GERMANY'S SUPPLIES

Papers read at the important scientific meeting of the German Association for Mineral Oil Research and of the German Fuel Association, held in Berlin recently, gave a comprehensive view of the newest developments of mineral oil research in Germany, and also as to German national fuel policy.

Dr. E. R. Fischer, chief of the mineral oil and mineral oil products division, discussing the vital problem of meeting the mineral oil needs of Germany, in time of peace as well as in time of war, referred to the fact that Germany was still dependent upon imports for 65 percent of her requirements. Although, as he pointed out, international trade provided the world with oil products in the cheapest and most convenient way, Germany must adopt all possible measures to make herself independent in the event of war, of imported supplies of mineral oil. The search for light motor fuels must be pursued with energy, as the technology of synthesis had reached a stage at which it was possible to use German coal as raw material for this purpose. The output of benzole, on the other hand, could only be increased to a moderate extent; and the use of alcohol as motor fuel could only be regarded as a crisis measure, inasmuch as alcohol mixtures constituted a virtual subsidy to the agricultural interests. Further, the conversion of a foodstuff into motor fuel in time of scarcity could not be justified. The treatment of German crude petroleum to produce gasoline would be wasteful, because this crude formed a natural reserve for the production of the essential lubricants in the event of war.

With regard to generator gas, Dr. Fisher said that against the low cost of the fuel itself must be set the high cost of maintaining vehicles driven by this means in proper working order. He added: "Whether in the long run it is better (as with generator gas) to have a chemical factory moving about on wheels, or to construct a stationary chemical factory under the guidance of chemists and engineers and thus render the traffic simple, less liable to trouble and more convenient — that is what we shall learn in the future. Generator gas can scarcely revolutionize motor fuel supplies."

GARDNER-DENVER ANNOUNCES ANOTHER NEW POWER PUMP

The 7¼ × 10 FXO

- A small, compact pump for portable and semi-portable drilling rigs, oil line and high pressure service.
- Oil-stop and mud-stop heads completely and positively prevent entrance of mud and water into power end.
- Exceptional accessibility—liners, pistons and rods can be changed without opening crankcase, thus keeping dust and other foreign matter out of working parts.
- Continuous tooth-type herringbone gear and pinion—quiet, durable, efficient.
- Timken tapered, adjustable main bearings—Hyatt roller jackshaft bearings—pinion shaft floats in accurate alignment with main gear.
- Famous Gardner-Denver divided fluid end construction—no internal walls or metal sections to be cut through by abrasive mud.
- Chrome nickel alloy fluid end tested to 3,000 lbs. hydrostatic pressure.
- Automatic, positive flood lubrication to main working parts—reliable always—no oil pipes, no tricky adjustments. Grease packed main and jackshaft bearings.
- Gardner-Denver center-guided fluid valves—light, durable, easy to replace.

GARDNER-DENVER CO., 102 Williamson Street, Quincy, Ill.
Since 1859

OIL COUNTRY OFFICES: DALLAS, HOUSTON, KILGORE, TULSA, LOS ANGELES

Continental Supply Co.
Continental Building
Dallas, Texas

Emsco Derrick & Equipment Co.
6811 South Alameda St.
Los Angeles, Calif.

Republic Supply Co.
2122 E. Seventh St.
Los Angeles, Calif.

GARDNER-DENVER

Employees Welfare

MEETS WITH SUCH RESPONSE AS TO BE PROFITABLE WORK

By BRAD MILLS, Associate Editor

THE Employees Welfare Service has become an important part of community life in Humble Oil & Refining Company's principal production camps along the Gulf Coast and in East Texas. Originally started as a landscaping undertaking, the work has been rapidly extended to include a much broader scope of activity that affects several phases of the home and social life of women living in the camps. The value of the first effort was so apparent that the company soon expanded its welfare service to include facilities for growing all kinds of flowers and vegetables, and for canning foodstuffs in modern canning kitchens.

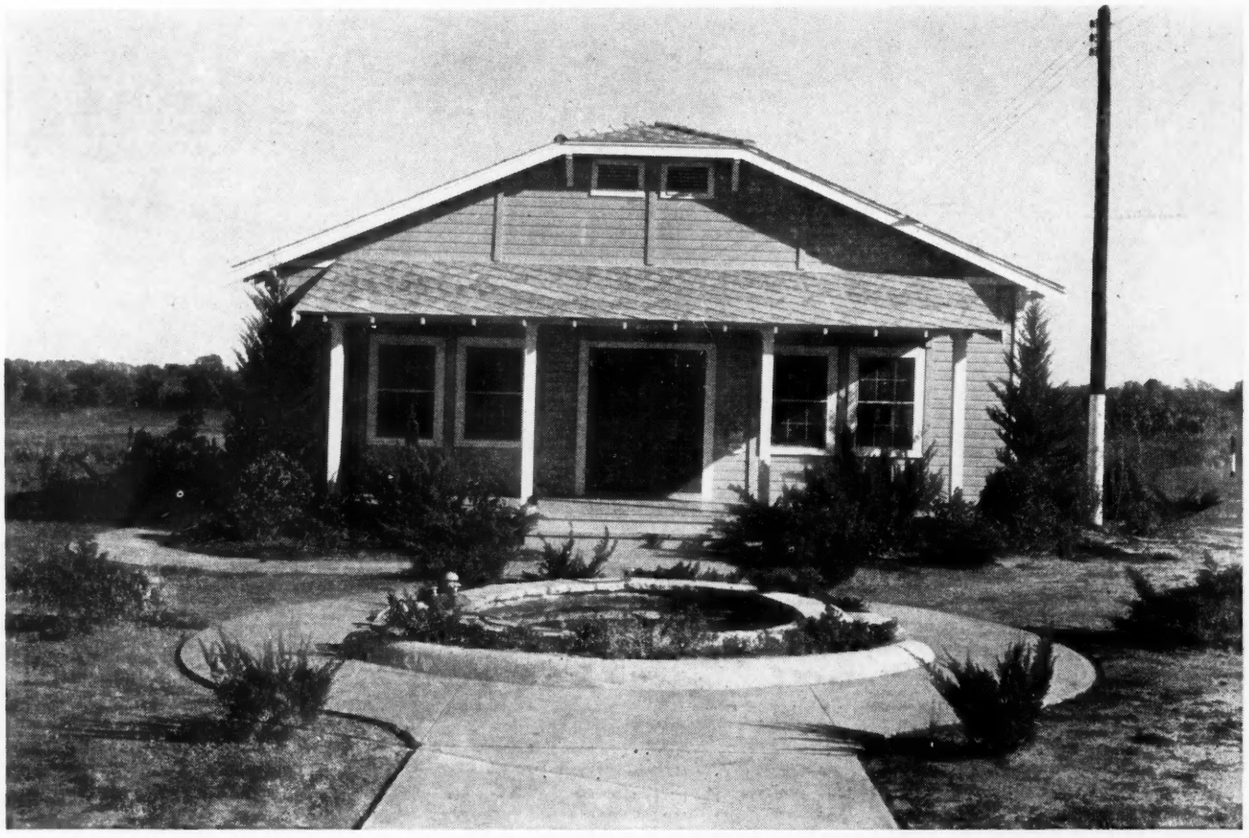
The first work was based on the belief that women are appreciative of a company's efforts to improve the appearance of its camps. The company also recognized the fact that an employee is satisfied generally with camp life and conditions when his wife is contented. The landscaping and beautification program that was the beginning of the welfare work in 1931 brought such good results that the work was expanded to allow the women of the various camps to organize garden clubs. This work was followed by the erection of more ornate recreation halls, playgrounds, and a still broader use of landscaping.

The growth of the movement increased rapidly and the membership among the women soon passed 1000. The work seemed to fill a definite need among the women who had not been able previously to exchange ideas on such a large scale. The gardening and landscaping work was so extensive that even the most experienced women found much to learn. The work included the beautification of yards, camp grounds, parkways, and a general study of gardening. The organizations were given a free hand in their work and functioned through elective bodies that gave each woman a chance to express her ideas. The improvement in camp appearance paralleled interest in the work.

The work since its beginning has been under the direction of a company engineer who has given all of his time to the department. The company spends annually a large amount of money in carrying out the program, but receives nothing in return for the service, outside of satisfaction and loyalty expressed by the employees, which is considered full payment for the money expended.

The work was started in 1931 as a landscaping program for production camps. Raccoon Bend was selected for the initial effort and the camp soon became one of the most attractive along the Gulf Coast. Use of shrubbery was followed by a more elaborate landscaping program that included flowers, terraces and the like.

Interest in the first work was so widespread that attention was soon given to recreational facilities, such as



The recreation halls reflect work accomplished by Employees' Welfare Service.

DI-HARD

TRADE MARK

I. R. METAL

SLUSH PUMP LINERS

for

WILSON-SNYDER PUMPS

I. R. Metal is so hard it will cut glass and cannot be scratched with a file. Wilson-Snyder Di-Hard Liners, made with this metal outlast heat-treated steel liners four or five times, and increase piston wear proportionately.

I. R. Metal is remarkably long wearing due to; 1st, its extreme hardness and 2nd, its low coefficient of friction.

Frequent and costly liner and piston replacements are eliminated by the use of Wilson-Snyder Di-Hard Liners in your slush pumps.

WILSON SUPPLY COMPANY

1412 MAURY ST. **HOUSTON, TEXAS**

OIL and GAS
WELL SUPPLIES

Exclusive Gulf Coast Distributors for
Wilson-Snyder Pumps; American Cable Tru-Lay *Pre*-formed Wire Rope; Kewanee Boilers; Sievers Reamer; Driftmeter, Jr.

BRANCHES
Barbers Hill, Kilgore, Greta, Gladewater, Port Lavaca and Tomball, Texas; Lake Charles and Shreveport, Louisiana.

playgrounds for children, tennis courts and recreation halls of a new type. Women started using the recreation halls for the first time in 1934 as a meeting place for the garden clubs.

The first garden club was started at Sugarland in July, 1934, and organization of other clubs followed. Attention was turned to the designing of recreation halls in 1934, and the changes were the first of importance in several years. The new halls are equipped with stages, dressing rooms, ladies' rest rooms, canning kitchens and auditoriums. They also are furnished with the latest type folding chairs, and overstuffed suites for special occasions. Window curtains and other extras have been added to give the halls a better appearance.

The welfare work has grown to include landscaping of all kinds, camp layout programs, canning activities and garden clubs. The canning work is a part of the garden club activities, and the advice of experts was obtained when the first canning kitchen was opened. The Texas A. and M. College sent a woman to aid in the first work done in a company kitchen at Sugarland.

The company has provided four large community gardens, including one each at Thompsons, Raccoon Bend, Gladewater and Kilgore. In these gardens each interested employee is given a small parcel of land, usually 25x100 feet, and on this small tract he can raise whatever he likes. The company clears the land, plows it and makes it ready for cultivation. Wide latitude is given the employees who care for these small tracts, but observation at the canning kitchen has shown that the yield of the community gardens is much higher than that of the individual garden. Two of these community gardens were cleared and made ready for cultivation at a considerable expense to the company.

The canning kitchens had turned out more than 140,000 cans of foodstuffs during the first nine months of 1935, and it is expected that the last three months will bring the total to about 200,000 cans. In addition to fruits and vegetables, all kinds of meats are canned.

The 11 garden clubs are located at Hull, West Columbia, Conroe, Raccoon Bend, Thompsons, Tomball, Kilgore, Gladewater, Anahuac, Sugarland and London. They are all self-governing and function through regularly elected officers. The total membership for the Gulf Coast and East Texas divisions is about 1500 women. About 7500 roses were bought last year for the various clubs, and about 12,000 are now growing. The company pays for all the flowers and shrubbery.

The canning kitchens are equipped with the most modern machinery available, and each kitchen has a capacity of about 800 cans per day. The arrangement is such that several women may use the kitchen at one time. The kitchens are ordinarily located in the rear of the recreation halls.

Annual flower shows are held at the larger camps. They are elaborate affairs and are the culmination of the year's effort in garden work. Two or three of the shows last year were larger than any that had been held in Houston or Dallas.

The upkeep and maintenance of each camp is under the supervision of the district superintendents. The company furnishes labor and supervision for maintaining the parkways and camp grounds coming under the program. All production camps are equipped with playgrounds and tennis courts lighted for night playing. The design and landscaping of these grounds comes under the work of the welfare service. At most of these camps, large artificial lakes have been made and all are stocked with game fish. These lakes usually are the center of the landscaping plan for a part of the camp layout.

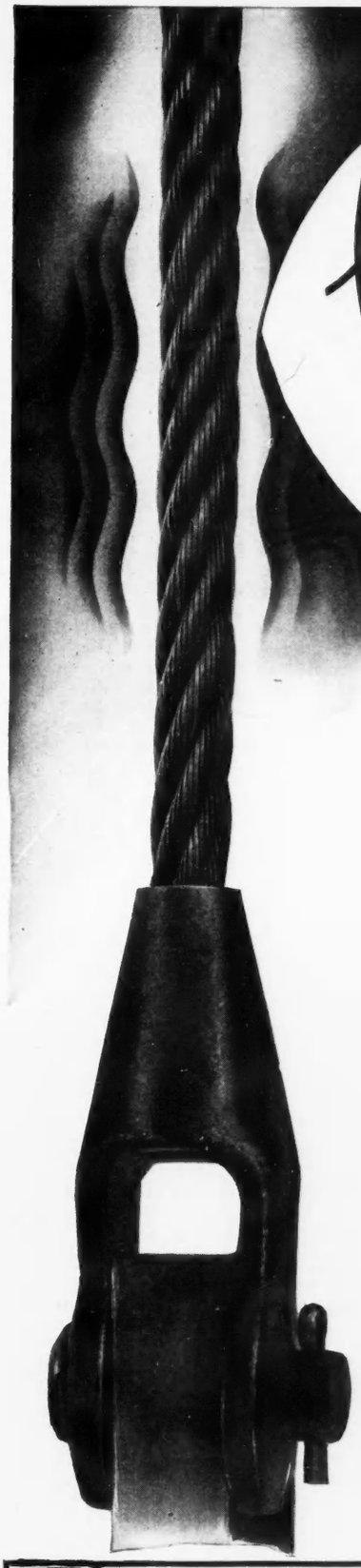
Visitors from several foreign countries have inspected the work being done by the Employees Welfare Service, and similar efforts will be attempted in foreign fields. A representative of a large company operating in Venezuela has recommended that his company adopt a similar plan to beautify large production camps caring for the families of employees.

The garden chart compiled by the company is one of the most complete ever designed for the Gulf Coast and East Texas districts. It gives complete information on all vegetables common to the districts. Company employees not familiar with local conditions find the chart very helpful.

Executives of the company have closely followed the progress of the work and have expressed their intention of making it a permanent part of the goodwill and welfare program. A large number of unsolicited letters have been received from the wives of employees who tell of their appreciation.

The work is a radical departure from the usual run of activities encouraged by large producing companies, but the response has been so great that Humble Oil & Refining Company considers itself well paid in loyalty for its effort.

The canning kitchens provided at the large production camps are an important part of the welfare program.



Because YOU CAN'T STOP VIBRATION HERE

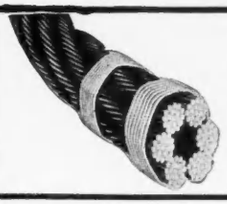
Know your Ropes ...This is a helpful hint, how to make wire rope last longer. Subsequent Wickwire Spencer advertisements in this publication will give other dollar saving information. Tell us about your rope problem and we will give you the answer.

Rapid hoisting always sets up severe vibration in the rope directly above the point of load attachment. There is no known way to prevent it. Although visual examination of the rope at this point may not disclose broken wires, the strength of the section from 5 to 20 feet above the load attachment is bound to be greatly reduced because of crystalline fatigue within the wires. It is therefore advisable to cut this damaged section off periodically even though it may still look sound. About ⅓ the estimated life of the rope is a good interval. A breaking test of the discarded piece proves the wisdom of this safeguarding practise.

•

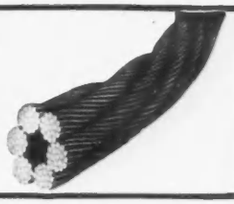
WICKWIRE SPENCER STEEL COMPANY, New York City; Buffalo, Chicago, Worcester; *Pacific Coast Headquarters:* San Francisco; *Warehouses:* Portland, Los Angeles and Seattle. *Export Sales Dept.*, New York.

WIRE ROPE *by Wickwire Spencer*



BOTH...STANDARD LAY AND WISSCOLAY PREFORMED.

Wickwire Spencer manufactures all sizes and types of Wire Rope in standard lays and preformed. Wisscolay preformed wire rope will often solve a wire rope application difficulty. Ask our engineers where and when it should be used. Send for a free **WIRE ROPE BOOK.** *It will prove of great value.*



Jesse Area Looms

WILDCAT ESTIMATED GOOD FOR 3000 BARRELS DAILY

WEEKLY STAFF REPORT

Ada, Okla.—Geologists who for years condemned the Franks Graben area of Pontotoc and Coal Counties took it on the chin again this week when Continental Oil Company's McCarty 1, C SW NW 12-1n-7e, in the Jesse area about five miles southeast of here, topped what may be Wilcox sand at 4620 feet and was estimated capable of from 3000 to 5000 barrels per day with only one foot of penetration. Several weeks ago this test, which was running 250 feet higher than a well a short distance away and nearer the town of Jesse, encountered Bromide section at 4155 feet. At 4155 to 4157 feet it was making approximately 1,250,000 cubic feet of gas, and at 4330 feet a stain of oil was encountered, apparently in second Bromide sand topped at 4312 feet. At 4348 feet gas had increased to 3,850,000 cubic feet and at 4380 feet gas blew the tools up the hole, the drilling line was broken and a fishing job resulted. At 4446 feet the gas had increased to 9,000,000 cubic feet, the tools were again lost and were not recovered for about two weeks. Below the McLish zone which was topped at 4427 feet the gas increased to approximately 11,000,000 cubic feet at 4475 feet. With the tools one foot in what may be Wilcox sand the test cleaned itself and flowed a steady stream of oil 50 feet over the derrick. It was shut in after six minutes.

This discovery is all the more remarkable in view of other development in the vicinity. The first test to attract attention to the Jesse area was Lynch et al's Thompson 1-A, SW NE SW, 1-1n-7e, almost three-quarters of a mile north and slightly east on Continental's new well. Thompson 1-A was drilled to 4651 feet in Bromide formation, plugged back to 4380 feet and completed as a small well in March of this year. It was a twin to a dry hole which had been drilled to 1680 feet in August, 1934 by Choctaw Oil and Gas Company.

Subsequently Paramount Petroleum Company's Graham 1, SW SE SW 13-1n-7e, two and one quarter miles due south, topped Bromide section at 3115 feet and was abandoned dry after being drilled to 3478 feet. It had a number of showings in the upper portion of the hole and was more than 500 feet higher than the Lynch et al's well. This led geologists to believe that it was located on the south and upthrow side of a fault. In May of this year Sunray Oil Company's Curtis 1, SW SE NW 13-1n-7e, one half-mile north of Graham 1 and slightly over a mile south of the new well, was completed dry at 4471 feet after finding top of the Bromide section at 3795 feet, considerably lower than in Graham 1 but still several hundred feet higher than in Continental's McCarty 1. That the area is highly faulted seems to be the best explanation for conditions as they appear to be. How these faults will trend is a problem which probably will have to be solved by the drill. It appears that Continental's McCarty 1 and Lynch et al's 1 may be on the same structure.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARTER COUNTY—		
Schermerhorn Oil Co, Frazier 11, ne sw sw 15-4s-3w	*	1362
CREEK COUNTY—		
Indo Oil Co., Stanley 1, se sw se 33-18n-10e	¶3½	1964
GRADY COUNTY—		
Bryan et al, Brooks 1, ne se se 36-4n-6w	*	3000
LINCOLN COUNTY—		
Sinclair Prairie, Stout 4, ne se nw 3-14n-5e (otd 3468)	*	4666
MUSKOGEE COUNTY—		
Mussellum, Fluche 2, sw sw se nw 17-14n-17e	45	1891
OKLAHOMA COUNTY—		
Sunray Oil Co., County Fair 3, ne ne nw 1-11n-3w	¶60-13,278	6430
Marathon, Keefer 2, sw nw nw 5-13n-3w	¶15-1087	6720
Burns Oil Co., Owenby 1, sw ne se 29-13n-3w	lcn.	abd.
Marathon, Rankin 1, se se sw 31-14n-3w	1873	6723
Larkin and Warr et al, Frisco 1, ne ne nw 1-11n-3w	1047	6321
OKMULGEE COUNTY—		
Smith, Corbray 7, cne ne 23-14n-14e	*	1010
OSAGE COUNTY—		
E. O. Platter, 6, se se nw 30-27n-9e.	10	502
Sinclair Prairie, 8, se nw sw 15-24n-7e	37	2568
Lewis Prod. Co., 7, nw nw sw 21-24n-7e	300	2682
Peters Pet. Co. and Sinclair Prairie, 9, se nw ne 24-24n-7e	92	2816
Danciger, 1, se se se 1-25n-6e	*	3108
Carter, 4, se ne ne 9-25n-6e	¶2-2737	2696
8, se nw ne 10-25n-6e	1050	2767
10, ne se sw 10-25n-6e	2124	2898
Barnsdall, 11, nw sw nw 36-25n-11e	53	1729
Ross O&G Co., 5, se sw se 22-28n-10e	35	1350
PONTOTOC COUNTY—		
Cornwell & Bradley, Gilmore 1-A, sw sw sw 14-5n-8e	*	873
Moore, Smith "B" 1, sw se se 25-2n-6e (pb 4285)	2690	4315
Akers 7, nw sw ne 36-2n-6e (pb 4470)	3805	4530
J. G. Catlett, Smith 1, sw sw nw 28-2n-7e	2465	4384
Magnolia, Simpson 3, se se ne 29-2n-7e	¶1½-3522	4285
Moore, Witherspoon 1, nw se nw 31-2n-7e	53	4595
SEMINOLE COUNTY—		
Grisso, Barnhart 1, se nw nw 8-6n-8e	130	2751
Harmon Oil Co, Murphy 1, sw sw sw 8-6n-8e (pb 2786)	8	2888
Blackwell O&G Co., Harjo 1, nw nw nw 34-8n-7e	*	3300
Fleetborn Oil Co., Stump 4, sw se sw 27-8n-8e	450	4235
Sinclair Prairie, Miller 1, ne nw se 24-9n-5e (otd 4251)	*	4273
Wood Oil Co., James 1, cw½ ne se 24-9n-6e (pb 4067)	81	4073
Exchange Drlg. Co., Hull 1-A, cne nw 25-9n-6e	¶12-1000	4004
Magnolia et al, Andrews 1, ce½ ne nw 14-10n-6e	*	4127
STEPHENS COUNTY—		
Golden-Cochran, Gann 3, nw se nw 31-2n-4w (pb 973)	5	1506
WAGONER COUNTY—		
Mechlin, Drew 4, cwl nw sw 30-18n-15e (otd 1180)	*	1312

*Failures; †Junked; ¶Million cu. ft. gas.

OKLAHOMA TEST

Centrahoma, Okla.—Carter Oil Company et al's Thompson 1, C SL NE NW 34-2n-9e, important wildcat test near here in western Coal County, had resumed drilling and was below 6010 feet in Viola lime topped at 5990 feet, November 8. Geophone tests were made and the hole bailed down to test the shut-off before drilling was resumed.

OKLAHOMA CITY

Nine tests underway in north extension

Oklahoma City.—Nine tests are under way north of Twenty-third Street in the vicinity of the Governor's Mansion in the north extension of the Oklahoma City pool. These included British-American Oil Company's Mary Green 1, SE SW SW SW 23-12n-3w, which attracted attention to the area when it showed for a 6000-barrel well several weeks ago and which was still trying to dislodge a swab late in the week. The hole bridged several hundred feet off bottom and a swab has been stuck for several weeks. Operators have been milling on the swab and expected to dispose of it during the week. The bridge will then be knocked out and the well given a test.

In the immediate vicinity the same operator's Green 2, SW SW SW SW 23-12n-3w, was waiting on cement to set on surface pipe at 1005 feet; its Piersol 1, S½ SE SE SE 22-12n-3w, was drilling below 3700 feet; Piersol 3- SE NE SE SE 22-12n-3w, was drilling below 1350 feet; Piersol 5, N½ NW SW SW 23-12n-3w, had spudded; Fairfax Oil Company's Bracht 1, E½ SE SW SW 23-12n-3w, drilling below 5900 feet; Bracht 2, E½ NE SW SW 23-12n-3w, drilling below 4950 feet; Superior Oil Company's Sibley 1, SW NW SW SW 23-12n-3w, was drilling below 4050 feet; and Sibley 2, SW NW SW SW 23-12n-3w, drilling below 3800 feet. In addition there are three locations.

This area, generally considered to be an extension of the Oklahoma City pool because of geological data and the relatively low formation pressure, apparently is cut by a northwest-southeast trending fault which is not in per-

fect alignment with the fault on the east side of the pool proper. This fault, projected directly northwest, would pass east of Phillips Petroleum Company's Troy 1, SE SW SW NE 26-12n-3w, and Nemaha Petroleum Company's Capitol Courts 1, C WL NE SE SW 23-12n-3w, both of which are relatively very low and dry holes. It appears that the fault to the north may be en eschelon or that its strike may change between the pool proper and the extension.

PRESSURE STEAM

May be applied to well to free drill pipe

Ardmore, Okla.—Carter Oil Company et al are rigging up to apply high pressure steam to the hole in an attempt to break a bridge and free the drill pipe in their Williams 1, SW NE SW 27-2s-3w, important discovery in the old Fox field of northwestern Carter County.

The test started flowing from 8088 feet, the total depth, after acid had been introduced to free the drill pipe. It was at first estimated flowing at the rate of from 10,000 to 12,000 barrels per day with the tools 30 feet off bottom. The flow of gas and oil gradually diminished to 3000 or 4000 barrels per day as a bridge was being formed in the hole, but operators were forced to pump in more than 2000 barrels of weighted mud before the flow could be killed. The well was flowing wild for over a week before being killed with mud.

Top of the Simpson formation was reported at 6695 feet and the general belief is that production is coming from somewhere below that point. However, there seems to be a possibility that all or a part of it may be coming from Hunton lime topped at 4895 feet. The 9⅝-inch casing was cemented at 4909 feet and no showing of great consequence had been observed until after acid was introduced into the hole.

BECKHAM COUNTY

Operations under way near Eric and Texola

Sayre, Oklahoma.—Rogers and Rigdon have announced location and are digging cellar for No. 1, C NW NW 36-9n-25w, 11 miles southwest of here and four and one-half miles east of the town of Eric in western Beckham County. In the same area, one mile south of the town of Texola, Starr Oil Company was rigging up machine for No. 1, C NW SE 32-9n-26w.

Twelve miles east of Hollis in eastern Harmon County H. L. Lee et al had announced proposed location for No. 1, C NW NW 22-3n-24w. Acreage in the area is held by Harrell-Davis, Benedum and Trees and others. No details of any of the three ventures were available.

MARIETTA WILDCAT

No additional shows in Amerada-Stanolind test

Ardmore, Okla.—Amerada Petroleum Corporation and Stanolind Oil & Gas Company's Westheimer and Daube 1-A, SW SE SW 27-6s-2e, five miles northeast of the town of Marietta in northeastern Love County, November 8, was drilling below 2090 feet with no further showings.

A nice showing of oil was encountered from 1477 to 1493 feet.

Sixteen miles west of Marietta, Sinclair Prairie Oil Company's Stockton 1, SE SE SW 26-6s-2w, was drilling below 6465 feet, apparently still in the Deese member of the Glenn series of Pennsylvania Age. Operators at one time thought they had gone into the Dornick Hills member. Meager control makes correlation in this portion of the state very difficult.

VALLEY SHIPMENTS

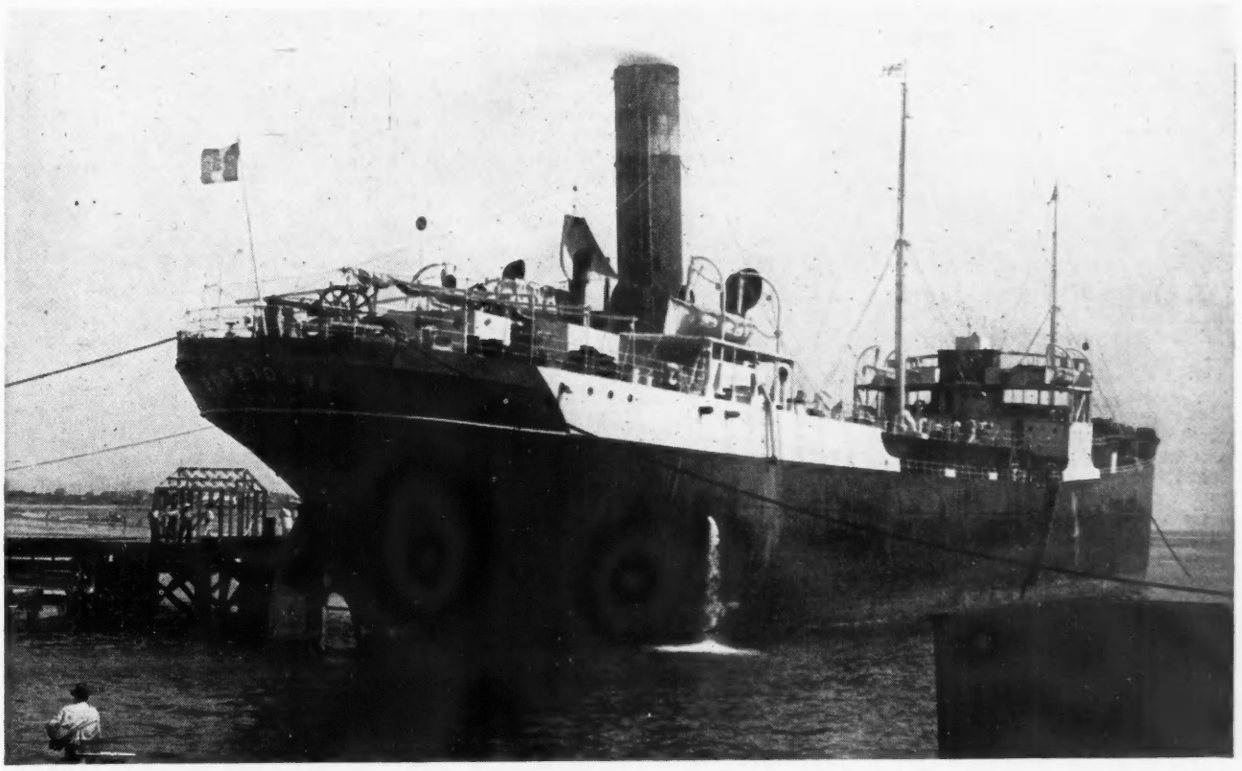
Through new facilities first marketing of oil

Port Isabel, Texas.—The recent completion of a 90-mile pipeline from the Samfordyce oil field to Port Isabel marks the first step toward the profitable marketing of Valley oil.

At the same time work is being rushed on the Coastal Refining Company's new refinery and cracking plant at the port city. This plant will handle most of the oil from the new pipe line. This refinery represents an investment of approximately $200,000, with another $100,000 for the tank farm and storage facilities.

The completion of this new pipe line and processing plant, together with dock and loading facilities at the port, definitely assures the Valley of adequate means of handling and shipping their petroleum products. Plans are being discussed for other pipe lines and refineries, and as the volume of oil necessitates these additional facilities, they will undoubtedly be constructed.

The first cargo of Valley oil has al-



Italian tanker Poseidone which lifted the first cargo of Valley oil from Port Isabel, Texas.

ready been shipped from Port Isabel on the Italian tanker Poseidone and was consigned to the Italian Government. A second tanker is due to dock about the middle of November to lift another cargo to complete the consignment. These shipments are being made by the F. M. Murchison Interests of Dallas, Texas.

These shipments definitely establish the foreign marketing possibilities of South Texas oil. The port facilities also assure profitable handling of oil for consumption in our own country.

The Samfordyce area now has some 96 producers, and is showing signs of bringing in more. Oil activity is progressing also in the proved Mercedes field. With many other wells drilling in various parts of the Valley, it seems that South Texas is destined to become one of the important producers of petroleum products.

With the present completed development and that now in progress, surmounted by that proposed for the future, the Rio Grande Valley is destined to see a new era in oil development.

MAINTAIN PACE

Tulsa.—Field activity in Oklahoma maintained the high pace which was established more than a month ago when scouts made 53 first reports during the week and 37 tests were completed. Pontotoc County went back into the lead in new operations with 13 first reports and was closely followed by Osage County with 13; Hughes and Okmulgee Counties had four each; Seminole County, three; Creek, Oklahoma and Pottawatomie, two each; and Carter, Cotton, Hughes, Jackson, Jefferson, Lincoln, Logan, Okfuskee, Payne, Pawnee, Roger Mills, Tulsa and Wagoner, one each. This was a total of 20 counties scattered over a wide area of the state.

Included in the 37 completions were 25 oil wells with combined initial rating of 37,977 barrels, one gas well with an initial volume of 3,500,000 cubic feet, 10 dry holes and one abandoned location, all of which involved 109,755 feet of drilling. Three old wells were deepened a total of 1352 feet.

SOUTHERN OKLAHOMA
Prices paid for leases indicate strong demand

Muskogee, Okla.—The attitude of several major companies toward southern Oklahoma possibilities was expressed in no uncertain terms on Thursday, November 7, when Carter Oil Company and Gypsy Oil Company paid $550 per acre for a 120-acre lease approximately one and one-half miles southeast of Carter Oil Company et al's new discovery in the Fox field of northwestern Carter County.

The Five Civilized Tribes' lease auction as a whole was the most successful in total bonus since the sale of April, 1930. Of the 11,675 acres offered for bid, 7448 acres were sold for a total bonus of $109,260.73, an average of $15.08 per acre. The April, 1930, sale brought a bonus of $119,843.

The largest price paid for acreage outside of Carter County was in Jefferson County, where Sinclair Prairie Oil Company paid $35.50 an acre for the N½ SW NW and the N½ NW 36-5s-7w, a 100-acre tract. Bids of $15 to $25 per acre were not uncommon for a number of the southern Oklahoma tracts.

In the play, which has been revived on the basis of the Fox discovery, it is reported that commercial leases are being taken at $300 per acre in cash and a like amount in oil.

NEW WILCOX TEST

McAlester, Oklahoma.—Vaughn Production Company et al's Chunn 1, NE SE NW 29-4n-14e, 9½ miles southwest of here and two and one-half miles southwest of the town of Savanna in southwestern Pittsburg County, will be carried to the Wilcox sand in event it is not a producer in Cromwell sand or some other upper horizon. According to a report, Stanolind Oil and Gas Company has agreed to assist in the carrying of this test from Cromwell sand to Wilcox sand. The test is now drilling at approximately 2000 feet.

Pittsburg County has been the scene of several large leasing campaigns and blocks of several thousands of acres are now held mostly by independent concerns. Joe I. Cromwell, discoverer of the Cromwell pool and for whom the Cromwell sand was named, has a block of something over 12,000 acres solid in the county.

243 TEXAS STARTS

Austin.—The Texas Railroad Commission last week approved permits for drilling 243 new wells in the state, 87 more than were allowed the week before.

The entire increase may be accounted for by the raise in East Texas, the commission approving permits for 97 new wells in that one district. There were 42 in Rusk County, 33 in Gregg County, 12 in Upshur County, nine in Smith County and one in Cherokee County.

KANSAS WORK UP
More tests started than completed in week

Wichita, Kansas.—Rice County was in the lead position in new work during the week with six of the 29 first reports made in the state. Ellsworth County, formerly for many months one of the leaders, came back into the picture with four starts; Russell and Sumner had three each; Greenwood and Harvey, two each; and Barber, Butler, Cowley, Pratt, Reno, Rush, Sedgwick and Woodson, one each.

Twenty-two oil wells yielded at an initial rate which gave them a total computed initial production of 39,116 barrels, an average of 1778 barrels per well. The completion reports included six dry holes and one abandoned location, a total of 29 tests which were stricken from the active list. Total footage of 83,884 feet was divided as follows: one wildcat oil well rated at 100 barrels initially, 2067 feet; six dry holes, 22,046 feet; and 22 remaining completions 59,771 feet. No old wells were reported recompleted.

SCHULTE POOL WELL
Test in Sedgwick County is pumping and flowing

Wichita, Kansas.—Lauck et al's Jordan 3, NW NW SE 6-28s-1w, in the Schulte pool six miles west of here in central Sedgwick County, was still rated an in-and-outer as it yielded 312.48 barrels pumping and flowing during a five-hour period. Simpson formation was topped at 3666 feet and penetrated four feet several weeks ago. The well at that time flowed 550 barrels the first hour and was estimated capable of flowing 15,000 barrels per day. The 5 3/16-inch casing has been lowered to 3652 feet.

KANSAS
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BARTON COUNTY—		
Price et al, Erlich 1, nw nw se 10-16s-13w	*	3375
BUTLER COUNTY—		
Phillips Pet. Co., Neer 8, cnw ne 29-23s-4e (pb 2088)	25	2104
Vickers Pet. Co., McCramer "A" 2, cwl e½ se se 35-24s-3e	268	2723
McCramer 2, cwl e½ se sw 36-24s-3e	78	2718
Palmer et al, Ellis 1, ne ne ne 7-25s-4e	*	2751
Mohawk Oil Co., Overstreet 1, nw nw nw 19-26s-8e	100	2067
Aladdin Pet. Co., Klinger 3, csw ne 24-27s-3e	119	2269
Empire, Love 33, se ne nw 29-28s-4e	55	2516
COWLEY COUNTY—		
Aylward Oil Co., David 1, sw sw ne 35-30s-4e	269	2997
ELLSWORTH COUNTY—		
Twin Drlg. Co., Rolfs 3, ne nw sw 13-17s-9w	1054	3215
Texas Co., Becker 1, ne ne ne 26-17s-10w	199	3265
GREENWOOD COUNTY—		
Schaffer & Howell, Souder 2, ne ne se 16-23s-13e	65	1759
KINGMAN COUNTY—		
Skelly, Ratcliffe 6, sw nw nw 30-27s-10w	66	3473
McPHERSON COUNTY—		
Palmer et al, Anderson 2, ne ne ne 31-18s-2w	124	2323
Carey et al, Husband 1, se se nw 6-19s-3w	*	3758
RENO COUNTY—		
Allison & Fitzwilliams, Dukelow 1, ne ne ne 11-22s-6w	*	4245
Gypsy, Myers 4, cne nw 3-24s-4w	52	3360
RICE COUNTY—		
Anderson-Kerr et al, Wernet 1, nw nw nw 24-20s-6w	*	3647
Gypsy, Smith 3, se ne ne 16-20s-9w	1350	3239
Smith 4, se se ne 16-20s-9w	1665	3249
RUSSELL COUNTY—		
Empire, Ehrlich 5, nw ne se 28-13s-14w	1351	3283
Alexander & McCole, Baier 1, se se se 34-13s-15w	212	3332
Bridgeport Machine Co., Mills 8, se se ne 4-14s-15w	295	3117
Buffalo Oil Co., Kunz 1, ne ne sw 19-14s-15w	Icn.	abd.
STAFFORD COUNTY—		
Stanolind, Komarek 1, ne ne ne 30-22s-11w	927	3584
Atlantic and Phillips, Cornwell 1, cne sw 4-25s-13w	*	4270
SUMNER COUNTY—		
Amerada and Sunray, Gassaway 14, cel se sw 14-32s-2e	27,706	2889
Shell, Emerich 5, sw nw se 14-32s-2e	2966	2906
WOODSON COUNTY—		
Sheedy, Klick 1, nw se sw 20-25s-14e	170	1450

*Failures; †Junked; ¶Million cu. ft. gas.

West Texas Drilling

ENCOURAGEMENT ON WEST FLANK OF KEYSTONE AREA

WEEKLY STAFF REPORT

Midland, Texas. — Preliminary production test given Sun Oil Company's J. B. Walton 1, NEc S½ Section 8, Block B-3, P. S. L. Survey, situated on the west flank of the Keystone structure, Winkler County, and 1½ miles from nearest production, forecasts a successful completion from sandy lime section at 3291-3454 feet. A formation tester used at 3238-3331 feet developed flow of gas estimated at 500,000 feet daily with spray oil, and later a drill stem test at 3328-3405 feet showed 750 feet of light green colored oil in tool. The hole was carried to 3454 feet, or 527 feet sub-sea, with excellent oil saturation noted in the last core. Operations have been halted pending the landing of seven-inch pipe near the 3200-foot level.

Sun Oil Company's prospective producer checks about 300 feet lower on structure than nearest producers. Top of brown lime horizon, a reliable geological marker, was logged at 2386 feet, or 541 feet above sea level. First two oil producers on the Keystone structure topped the lime at plus 853 and 832 feet, respectively, and were drilled from 1430 to 1500 feet below the top of the lime in developing small volume of flowing production from dolomite limestone. Sun Oil Company's test has been drilled 1068 feet below the first lime marker, and encountered oil in sandy-lime zone that yields high pressure dry gas production in tests spotted at high points of the Keystone structure. This new development may lead to worth while production being found along the west flank of the Keystone structure and in the so-called "thrashy sand" horizon above the dolomite lime.

Sid Richardson Oils, Inc.'s B. F. Jenkins-Humble 1, SEc Section 13, Block 77, P. S. L. Survey, which was reported last week showing for a producer after 320-quart nitro shot in lime at 3388-3488 feet, has settled to about 75 barrels oil and 2,000,000 cubic feet of gas daily. It was drilled to 3498 feet, or 535 feet sub-sea and extends the productive limits of the Keystone area about two miles to the northwest.

The Sayre field, Winkler County's most active area within the past year, added two flowing producers and a gasser the past week. Magnolia Petroleum Company's J. B. Walton 12, SWc SE Section 1, Block 26, logged gas in the regular oil horizon for the field, and was completed at 2965 feet rated at 8,327,000 cubic feet daily, carrying 1080 pounds pressure on the casing and 75 pounds on the tubing. Rig has been moved two locations east to drill Walton 13. Texas Pacific Coal & Oil Company's L. Daugherty 6, SEc NE Section 2, north location for the field, responded to 380-quart nitro shot in sandy-lime at 2750-2946 feet with a steady flow of 1185 barrels daily. Joe C. Maxwell and Atlantic Oil Producing Company's Daugherty 5, SEc Section 11, situated on south end of the producing area, flowed 586 barrels initial through open casing after 340-quart nitro shot at 2786-2996 feet. Wahlenmaier Petroleum Corporation et al have made location for J. B. Walton 1, NEc S½ SE Section 3, and on a line between a wildcat producer and the Sayre field.

G. B. Cree and B. L. Hoover's J. A. Crow 1, NWc SW Section 14, Block B-5, P. S. L. Survey, located more than a mile southeast of nearest production in the Kermit area, Winkler County, halted operations at 3270 feet after encountering bottom hole water. A small oil show was passed up at 3175-85 feet. The drilling of a 7000-foot wildcat in southeastern Winkler County is being contemplated by a group of independents, according to credible reports.

Official proration gauge given Magnolia Petroleum Company's W. P. Edwards 2, SWc Section 2, Block B-23, P. S. L. Survey, located in the north portion of the Waddell field, Crane County, credited it with a natural flow of 1610 barrels of 34 gravity oil in four hours. The crude yield exceeded the initial flow of 325 barrels per hour reported last week as having been attained after drilling three feet into the dolomite lime horizon. The hole is bottomed at 3538 feet, or 759 feet below sea level. The rig has been skidded 660 feet to the north to drill Edwards 3. Gulf Production Company's M. F. Henderson 2, a west offset to the big producer, made 327 barrels oil in five hours from lime at 3523-25 feet, and will not be deepened although it is bottomed at a sub-sea depth of 744 feet. Allowable production is limited to 100 barrels daily per well. Gulf Production Company's Waddell 12, NEc Section 10, Block B-23, is starting up. It is a southwest diagonal offset to the big producer on the Edwards ranch.

Westbrook Oil Corporation's T. B. Yarbrough-Gulf 1, NWc Section 26, Block B-14, P. S. L. Survey, southwestern Ector County, was considered eliminated as a contender for production in the Permian lime when sulphur water was picked up at 4180-95 feet. It has an elevation of 2824 feet, and topped the brown lime section at 3430 feet. The drilling block held by the company is on a general geological trend to the northwest from Gulf Production Company's W. N. Waddell et al 1, western Crane County wildcat, now coring below 6330 feet in the Ordovician lime series. The latter is credited with having logged favorable oil and gas showings at intervals since topping the Simpson lime section at 6060 feet, or 3506 feet below sea level. Humble Oil & Refining Company's L. W. Pollok-Gulf 1, northeastern Upton County, was averaging about eight feet of new hole daily the past week in drilling to 10,980 feet, logging hard limestone and chert.

W. C. Ray, San Angelo, and associates' Cordova Union 1, situated about 2½ miles southeast of nearest production in the McCamey district, Upton County, tested 16 barrels daily the past week from lime at 2062-67 feet, although it showed for a larger producer when first drilled in. Owners plan to deepen and treat the lime with acid. Big Basin Petroleum Company, San Angelo, has acquired a drilling block out of the Jax Cowden ranch, southeastern Crane County, and several miles southwest of production in the McCamey district. Location is in the northeast part of Section 77, Block X.

Plugging orders have been issued for Lou G. Stogner et al's C. C. George 1, wildcat near center of north line of Andrews County, after deepening to 5110 feet. Numerous shows of oil and gas were logged in the tight lime section below 4330 feet, but the formation lacked sufficient porosity to make a producer. Stogner and associates are confident that that area's abnormally high structural relief established by the log of their failure points the way to the eventual uncovering of a new field for the north sector of the Permian Basin, and are preparing to drill about seven miles to the northeast in Gaines County on the W. H. Kirkland, C NE SE Section 22, Block A-21, P. S. L. Survey. In the Seminole area, Gaines County, W. T. Walsh and Harry Adams Corporation's Averitt 1, NEc NE NE Section 228, Block G. W. T. Ry. Survey, remained idle the past week after cementing 9⅝-inch pipe at 2818 feet because of gas showings picked up in anhydrite and sand at 2785-95 feet.

WEST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY—		
Lou C. Stogner et al, C. C. George 1	*	5110
CRANE COUNTY (Waddell Field)—		
Gulf, M. F. Henderson 2	1560	3525
Magnolia, W. P. Edwards 2	 9600	3538
TOM GREEN COUNTY—		
Twin Oil Co., W. E. Green 1	..... *	335
LOVING COUNTY—		
Mason Oil Co., M. Kyle 1	..... *	4015
PECOS COUNTY (Yates Field)—		
Cardinal Oil Co., Tippett-Kirby 32-E	100	608
Marathon, Smith-Taylor 25	75,984	1670
Phillips Pet. Co., Monroe-Smith 5	.. 225	1337
PECOS COUNTY (Taylor-Link Field)—		
Taylor-Link Oil Co., University 16	100	1665
UPTON COUNTY—		
TP Coal & Oil Co., Lane 18-A	 706	2034
WARD COUNTY—		
California Co., Costley-Walling 2	.. 331	2525
A. B. Gordon 10	 733	2525
W. P. Luse & Ice, G. G. Marders-Baker 1	 164	2558
P. Jerry Sines et al, Sheppard-Brown 1	 20	3148
Westbrook Oil Corp., Monroe-Shell 3	152	2579
WINKLER COUNTY (Sayre Field)—		
Magnolia, J. B. Walton 12	.....¶8 1/3	2965
J. C. Maxwell & Atlantic, Daugherty 5	 586	2996
TP Coal & Oil Co., Daugherty 6	..1185	2946

*Failures; †Junked; ¶Million cu. ft. gas.

Operations were suspended temporarily on Honolulu Oil Corporation and C. J. Davidson's J. B. Bennett 1, Yoakum County's prospective wildcat producer, after drilling out cement plugs from seven-inch pipe at 4656 feet, and bailing the hole to the bottom at 5090 feet. The hole is credited with having filled with 3500 feet of oil after conditioning work was completed. No date has been set for a swabbing test, or deeper drilling.

NORTH TEXAS WORK

Cooke County now ahead of Archer in drilling

Wichita Falls, Texas.—Absence of new discoveries or production extensions of any consequence in Archer County within the past year has cost the county its leadership among the active counties in North Texas after maintaining top rank almost continuously for a decade. Cooke County has forged ahead as the center of field work, having 32 operations listed, exclusive of locations, as compared to only 23 for the former. Archer County contributed completions the past week, including seven failures, while Cooke County accounted for seven oil producers.

Cooke County rates high in total volume of proved and potential oil producing acreage awaiting development, and its 700-800-foot sand and lime horizons yield attractive pumpers.

The Chalk Hill field, only important deep producing horizon in Archer County, reported a new well in process of completion. Deep Oil Development Company and Lindsay Drilling Company's L. F. Wilson-McCrory 6, Lease 4, was rated at 65 barrels per hour natural flow from Canyon lime at 2191-2211 feet.

The Portwood area, Southeastern Baylor County, remains the principal source of flush production in the district, having added three large wells the past week. Consolidated Oil Company's Portwood 1-U, NEc S½ Section 3139, was credited with an initial output of 345 barrels from sand at 1411-15 feet.

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
Bridwell Oil Co., Wilson 1-D, sec 66	*	1564
L. T. Burns et al, B. F. York 7, sec 1583	*	1409
Cooper-Mitchell & Hunt, G. B. Hamilton 9, sec 6	10	1115
Hamer & Scholl, Archer County 4	*	990
Pet. Producers Co., L. F. Wilson 2, sec 114	*	1500
A. D. Robinson et al, A. D. Thompson 1, sec 20	*	1650
Shappell Oil Co., Archer Co. 1, sec 98	*	1945
S. W. Sutherland, et al, T. J. Dempsey 1, sec 10	*	460
BAYLOR COUNTY—		
Consolidated Oil Co., Portwood 1-U, sec 3139	345	1415
Dudley-Akin & Rayzor, B. Mills 1, sec 2413	*	1502
S. P. Morris et al, Howe 1	*	2006
Ray & Staniforth, Portland 26-C, sec 1574	1200	1350
Portwood 29-C, sec 1574	408	1362
COOKE COUNTY—		
Fain-McGaha Oil Corp., C. Felderkoff 1	15	850
Hudspeth-Harvey-Bass, Truebach 3	200	887
Truebach 7	50	890
Merrick Drl. Co., Hess 7	25	882
A. D. Robinson et al, Otto 3-B, blk 6	20	840
Seitz-Comegys & Seitz, Inc., Trew 2	98	731
The Texas Co., Walterscheid 4	20	771
DENTON COUNTY—		
Barbara Oil Co., E. Dowdell 1	*	1802
Oil Finance Corp., J. S. Gambel 1	†	1012
JACK COUNTY—		
C. C. Bloodworth et al, D. R. Sewell 1	6	303
D. R. Sewell 2	12	292
G. A. Erickson et al, W. E. Hunt 3	*	531
Gray Drl. Co., J. M. Bloodworth 8	3	289
MONTAGUE COUNTY—		
Benten & Holmes, Davenport 13-B	70	1700
Williams 1-A	†	1874
Ace Gutowsky et al, J. E. Lemmons 1	*	340
Lesh & McCall, Cunningham 9-B	¶½	850
THROCKMORTON COUNTY—		
Elliott Bryant, Tr., R. P. Lee 1, sec 221	*	510
WICHITA COUNTY—		
Carl Bailey et al, Munger 30	3	1091
Bridwell Oil Co., Allen-Kemp 15, sec 28	6	450
Allen-Kemp 16, sec 28	*	1781
G. W. Cooper et al, Waggoner Bros 5	*	1549
Regal Oil Co., J. A. Fisher-Markowitz 1	*	1602
J. H. Turner et al, N. L. Lawrence 1, blk 16	*	907
Waggoner Ref. Co., Waggoner Est 1, sec 2	*	2000
YOUNG COUNTY—		
C. E. Beavers et al, Barnett-Gibbs 3, sec 2245	35	650
L. G. Hawkins et al, L. A. Herring 1, sec 163	*	1025
L. A. Hedrick et al, A. C. Casey 1, sec 1906	*	603
Underwood Drl. Co., Campbell 5-C, sec 3401	100	895

*Failures; †Junked; ¶Million cu. ft. gas.

GAS INJUNCTION

Texas Panhandle cases continued

Fort Worth.—Temporary injunctions previously granted by federal courts to restrain the Texas Railroad Commission from enforcing its natural gas waste ban orders against natural gas producers, transporters and stripping plant operators in the Texas Panhandle and Palo Pinto County, were continued indefinitely by orders of a three-judge court convened here November 4, to act on the plaintiffs petition for an interlocutory injunction. Counsel for the State consented to the continuance of the restraining orders until the commission holds another gas proration hearing, scheduled for November 16. Conservation orders to be drafted after this hearing are to be predicated on terms previously suggested by the jurists presiding at the temporary injunction hearings.

TEXAS PANHANDLE

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GRAY COUNTY—		
Dixon Creek O&R Co., W. C. Archer 8	646	3260
Plains Holding Co., A. Chapman 3	455	2690
Skelly, H. Schafer 30-E	957	3327
Texas Co., W. W. Harrah 8	319	3258
CARSON COUNTY—		
Magnolia, fee (No. 244) 4	95	3245
HUTCHINSON COUNTY—		
Huber Pet. Co., Johnson 3-C-A	749	3095
Int'l Pet. Corp., T. Lewis-Badger 23	597	2981
MOORE COUNTY—		
Anderson-Kerr Pet. Co., McDowell-Gulf 1	¶19	3477

*Failures; †Junked; ¶Million cu. ft. gas.

WEST CENTRAL TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BROWN COUNTY—		
Cooley et al, T. A. Sears 2	5	560
R. M. Ragsdale et al, Mrs. A. Armstrong 1	*	1450
A. H. Rhodes et al, R. Thompson 8	1	1218
CALLAHAN COUNTY—		
Beams Prod. & Dev. Co., Jackson 11-D	120	1194
Humble, R. D. Williams 2	10	938
John McLean et al, C. B. Snyder 3	¶3¼	1170
A. H. Odell et al, O. Berry 1	*	636
C. A. Suits, Tr., J. Woods 1	20	1572
Ungren & Frazier, Jackson 8-C	25	1210
COLEMAN COUNTY—		
Anzac Oil Corp., J. P. Morris 1-D	*	2225
Jamison & Pollard, Kingsberry 4	1	1381
EASTLAND COUNTY—		
States Oil Corp., G. O. Gowan 1	160	2877
COMANCHE COUNTY—		
Joe M. Warren et al, S. P. Thomas 1	*	170
SHACKELFORD COUNTY—		
S. S. Alexander et al, J. C. Ghio 1	20	598
Choate & McCamey, E. Simpson 4-A	*	1648
Dean & Adkisson, Newell 7	168	1464
Dickey Bros., B. S. Walker 5	*	440
F. J. Estes et al, W. Davis 1	†	1275
Hart et al, J. H. Elliott 3	*	778
Hoffman-Page Co., Morris-Buie 16	5	1610
R. B. Hollingsworth et al, J. R. Vickers 1	*	1974
Parks-Strong & Jacobs, J. W. Turner 1	*	960
Reliance Oil & Roy. Co., G. R. Davis 11	40	1601
W. G. Rhodes et al, Geo. Gray 4	*	1670
Roeser-Pendleton, Inc., Dawson 10	35	1625
STEPHENS COUNTY—		
Hanlon Gasoline Co., Sikes 1	*	4328
A. A. Michael et al, Whitney 1	*	704

*Failures; †Junked; ¶Million cu. ft. gas.

HOT OIL ACTIVITY

Gasoline offered in East Texas as low as 3 cents

Tyler, Texas.—Volume of illicit crude production originating in the East Texas field has been more or less stationary for several weeks, involving estimates ranging from 20,000 to 30,000 barrels daily.

An accurate check is not possible because of about 50 percent of the 22 active plants continue to process so-called confiscated oil along with their current supplies.

Plants engaged in refining crude of a questionable source continue to offer U. S. motor grade gasoline at a price range of from three to 3½ cents per gallon, exclusive of taxes.

Quantities of off-color material turned out by makeshift cracking units are available to tank truckers at less than three cents.

Gasoline supported by federal tenders is netting refiners 4⅝ cents per gallon on committments to majors.

Marshall, Texas.—Steve Blazek's Robert Johnson 1, J. Johnson Survey, Panola County, 3½ miles southeast of DeBerry, Texas, is making small intermittent heads of oil at total depth of 1983 feet in what is probably Ozan formation. Six and five eighths-inch casing was cemented at 1960 feet. This test is between two holes drilled about 10 years ago by Magnolia Petroleum Company that showed considerable oil at the same horizon.

In Shelby County, about one mile west of the old Shelbyville area, C. A. Parker and associates have derrick up for Windham 1, A. H. English Survey.

Trinity Production

CAYUGA DEEP TEST YIELDS GAS AND DISTILLATE FLOW

WEEKLY STAFF REPORT

Palestine.—Commercial gas production from the upper section of the Trinity sand series in the Cayuga field became assured the past week.

Heavy volume of gas, traces of distillate and wash water was flowing from Tide Water Oil Company and Texas Seaboard Oil Company's Wills 21-A, which is surrounded by oil and gas production from the Woodbine sand near the 4100-foot level, after perforating casing between 7395 and 7200 feet. The well encountered gas showings and excessive pressures in drilling to the Lower Trinity series at 9082 feet, but found hot salt water below the seven-inch casing seat at 8750 feet.

Several months were spent in plugging back and perforating the casing at intervals in trying to locate the source of the gas passed up without testing and making a decisive test of the lower sand.

Several days will be required for the well to clean itself, according to a representative of the owners, as the flow is to be confined to a three-eighths-inch choke on tubing during this clean-out period.

The Trinity sand series have been given consideration as a possible source of production underlying the Woodbine belt in East Texas, having yielded heavy gas volume with a spray of oil in one of the first deep tests at Mexia, but the hole was junked, and later nearby tests failed to make producers. However, a small gas well was recently completed in the Trinity on the west flank of the Mexia structure.

Gas production from the Trinity horizon in the Cayuga area will not be followed by a deep drilling program, as the field now offers a huge excess supply of gas from wells completed in the Woodbine zone. However, the proving of a lower pay zone will afford a second life for the field, when the head is taken off the Woodbine sand.

The strike at Cayuga will undoubtedly lead to the exploration of the Trinity sand horizon in other East Texas areas that are known to have structural conditions favorable for deep production.

HIGHER OUTPUT

East Texas well flow increases December 1

Tyler.—Completions in the East Texas field the past week involved 65 producers, and one dry hole contributed by a major company on the east edge of the structure. Majors regained their former leadership in total wells added for the period, and were credited with 36 of the completions. Independents have been carrying on the most aggressive drilling programs in recent months, and are contemplating a substantial enlargement of their operations should a forecasted boost in the production allowable of the field materialize on December 1.

Higher production quota will be attained through the Texas Railroad Commission raising the percentage factor governing the output of non-marginal wells. Current production amounts to about 430,500 barrels daily from 19,075 wells, with the field prorated to 2.8 percent of its rated hourly potential. New potential readings on key wells, involving a minor decline in the aggregate, are to serve as the basis of production allocation for individual wells beginning December 1. A larger percentage factor will be authorized by the commission to offset this slump in rated flow.

Nine non-flowing wells were included in the current list of new completions. Seven of this number were equipped for pumping, while the entire group involved edge locations.

HOT OIL COMMITTEE

Austin.—An attack to abolish the Celaya "hot" oil investigating committee was launched in the House of Representatives last week by Representative Cecil Lotief of Cross Plains.

He introduced a resolution asking that the committee be disbanded. In a speech to House members, Lotief charged that the purpose of the committee was entirely political and that the $10,000 appropriation voted would be wasted. The resolution was voted down 68 to 43.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Arkansas F. O. Co., Ferguson 9 (73.8-ac)	9600	3660
Nick Barbare & Seip, Lambert 1, (33-ac)	65	3570
Champlin & Bass, Mason 5 (40.45-ac)	7500	3660
R. H. Dearing & Son, McDavid 11 (78.6-ac)	100	3712
C. A. Everts Drlg. Co., Overton-Harathon 3 (138-ac)	100	3635
W. H. Gant-Garvin-Wegener, W. P. Moore 8 (134.24-ac)	1000	3600
Great Plains O&G Co., Stone 6-B (26.65-ac)	7200	3640
Gulf, W. Shaw 5 (36.58-ac)	7500	3697
Humble, J. Wooley 11 (100-ac)	7600	3769
Hunt Prod. Co., Bradford 14-B (98.15-ac)	600	3670
J. M. Finney 7 (32-ac)	500	3718
Illinois Oil Co., Mayfield-Shell 23 (197.1-ac)	5400	3822
Marathon, M. A. Price 21 (205.59-ac)	750	3644
M. C. DeGuerin 17 (160.7-ac)	6800	3674
Sells Pet. Inc., J. B. Wilson 7 (50-ac)	7500	3771
Sinclair Prairie, A. Wiley 12 312.11-ac)	160	3833
A. Wiley 13 (312.11-ac)	5000	3829
Stanolind, J. Alford 12 (99.35-ac)	8500	3828
W. Wooley 5 (58.44-ac)	300	3560
Sun, Pace 21-B (637.45-ac)	2500	3835
Texas Co., Stubblefield 5 (45.2-ac)	600	3641
Texas Canadian Oil Corp., Cooper 1-A (4½-ac)	145	3673
Pace 2 (19.7-ac)	4600	3864
KILGORE AREA—		
American Liberty Oil Co., Sabine River 18, Tr. 7 (13-ac)	3600	3472
Arkansas F. O. Co., Hughey-Ross 25 (220-ac)	7200	3608
Empire, A. A. Lockhart 9 (33¼-ac)	6000	3632
Gulf, H. Baton 9(56.73-ac)	100	3654
R. C. Lipscomb, Southern & Thurman, King 6 (100-ac)	7000	3713
Otto Massey et al, Loughbridge 4 (13.3-ac)	8500	3703
Jay Simmons et al, Beall-Pyle 1 (½-ac)	1000	3570
Sam P. Shelburne, Walker 5 (174.3-ac)	1000	3562
Sinclair Prairie, Kennedy 12-B (52.44-ac)	240	3701
Sun-Texas Seaboard, Strong 9 (50½-ac)	9500	3600
H. J. Wilder et al, Reddic 3 (16.66-ac)	3000	3690
LONGVIEW AREA—		
Arkansas F. O. Co., Calvin 8 (65.22-ac)	7000	3591
Lee 8 (67.19-ac)	8000	3621
Tuttle 7 (61.51-ac)	10,000	3605
Atlantic-Sun, Hays 65 (448-ac)	10,500	3561
Hays 67 (448-ac)	11,000	3552
Atlantic-Stanolind, Fishburn 14 (112.45-ac)	10,000	3523
Fishburn 17 (112.45-ac)	10,500	3521
Ben G. Barnett et al, Buckholt 7 63.7-ac)	5000	3754
Ray Bumpas et al Bumpas 2 (4½-ac)	5500	3648
Burk Royalty Co., Hickman-Baird 1, blk 48	8000	3582
John Coates et al, Williams 4 (17¼-ac)	8500	3626
Conservative Oil Co., Mackey-Humble 11 (147.1-ac)	7000	3690
Genro Drl. Co., Red Bird 2 blk 1	750	3587
Humble, H. Castleberry 11 (244½-ac)	*	3532
J. K. Edwards 31 (271.6-ac)	5800	3656
T. D. Humphrey et al, Branson 6 (43-ac)	7000	3594
Midas Oil Co., W. M. McCrary 2 (2.14-ac)	9000	3480
C. H. Lyons-Wadley-Neeley, O'Byrne 7 (70.9-ac)	4600	3772
Marcus Oil Co.-C. G. Dunham, Matthews 3 (16¾-ac)	8000	3568
Shell, J. Moore 32 (303.7-ac)	7800	3567
J. Moore 35 (303.7-ac)	7000	3563
Louis Sikes et al, Moyers 4 (25.89-ac)	9600	3618
E. L. Smith Oil Co., Cabbiness 3 (83-ac)	480	3617
Stanolind, Snoddy 9-B (50.98-ac)	8400	3632
Stanolind-Falcon Co., Cloud 2 (36.24-ac)	5000	3695
Williams 2-B (71-ac)	5400	3664
Williams 4-B (71-ac)	5000	3701
Sun, Eve O'Byrne 6 (310-ac)	4000	3702
Sun-Texas Seaboard, Akin 20 (163.4-ac)	9600	3624
Texas Co., Taylor 5 (37½-ac)	3500	3680
Tide Water, Davis 16 (133.8-ac)	8000	3586
M. H. Wilson et al, Victory 1 (10-ac)	3800	3635
HENDERSON COUNTY (Cayuga Field)—		
Roeser-Pendleton, Inc., T. F. Murchison 11	15	4042
VAN ZANDT COUNTY (Van Field)—		
Humble, C. L. York 9 (85-ac)	35	2970
Pure, A. D. Clark 5 (42-ac)	20	2940
HARRISON COUNTY—		
Itex Oil Co., Taylor 1, Payne Survey, Co-Ord 0-5	sw	5863
FREESTONE COUNTY—		
J. A. Hoover et al, W. W. McFall 1	*	3612

*Failures; †Junked; ¶Million cu. ft. gas.

Active Lease Play

MUCH DRILLING IN PROSPECT FOR GOVERMENT WELLS AREA

WEEKLY STAFF REPORT

San Antonio.—A hot lease and wildcat play along the Government Wells trend of northern Duval and southern McMullen County is attracting a number of new tests, which it is believed will be the key openers of considerable new producing territory. It now appears as though the group of fields in the general area will be closely connected and may be classified as one major field composed of a number of pools.

The above is based on the theory that all the producing areas in this particular sector are on one general structure, divided by spots of poor sand conditions, small fault blocks and local synclines. It is not improbable that the general field will cover an area nearly 40 miles long and average width of six miles. This means that an area covering 150,000 acres is in the play. Figuring that nearly 15,000 acres already has been proven productive, it is conservative to predict that another 5000 acres or more will be added within the period of this present development and exploration campaign.

There are approximately a dozen wildcat deals underway at this time for the same number of tests through the Mirando section of the Jackson formation if production is not found at a shallower depth. Already, 11 active rigs are reported on key locations through this trend.

The Seven Sisters field, newest of the prolific areas, is already two miles long and several wells are drilling in trend to the south. This field is producing in the regular Government sand around 2500 feet. Wells average up to 90 barrels per hour through one half-inch choke and sand section is up to 25 feet in thickness, possibly thicker in spots.

Near the close of the week, there were eight active wells in the immediate Seven Sisters field: one in the Piedra Lumbre field; 22 in Loma Novia; two in Government Wells; one in Sarnosa; two in Labbe. These wells are completed on the average of less than two weeks from moving on location until turned into the tanks, accounting for about 12 producers per week in the immediate group.

The active wildcats and key outpost wells in fields and their status, according to the numbers on the map, are as follows:

1. Marzo Oil Company's E. R. Hagist 1-B, Section 6, McMullen County, shut down 1350 for repairs.

2. Magnolia Petroleum Company's Emil Labbe 2, Section 2, Duval County, completed 25,000,000 cubic feet of gas 2480-88 feet in Hockleyensis.

3. Stanolind Oil & Gas Company's Ira G. Yates (Farmers Life Insurance Company) 2, Section 416, dr below 2000 feet.

4. Westheimer and Daube's L. Campos 1, Section 224, dr below surface casing.

5. T. P. Morgan's J. F. Welder heirs 1, Section 591, drilling, depth not reported.

6. The Texas Company and Ohio Fuel Oil Company's Duval County Ranch Company 1, Section 96, drilling below 2500 feet, missing above sands.

7. Texla Oil Company's Nueces Land and Cattle Company 1, Section 101, drilling 2720 feet.

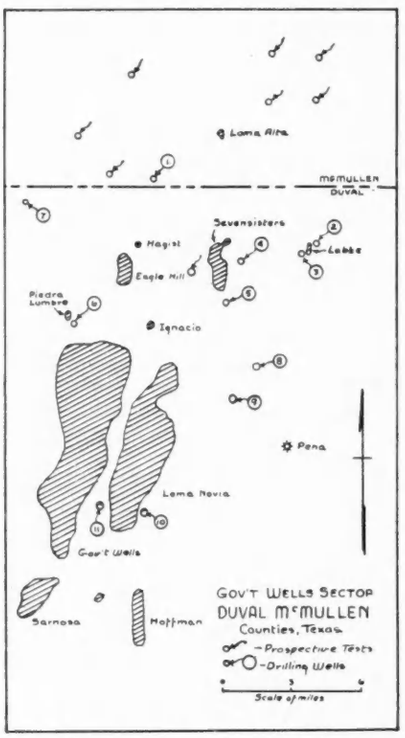
8. T. G. & M. Drilling Company's Davidson 2, Section 90, moving in materials.

9. Santa Clara Oil Company's J. F. Welder heirs 1-A, Section 103, moving in materials.

10. Rosan Oil Company's M. C. Hubbard 1, Section 71, building derrick.

11. Highland Oil Company's Bishop Duval Land Company 1, Section 76, moving in.

These wells, together with the proposed tests, will be watched with great interest in as much as they are on the key points of this tremendous structure. Sand conditions being proper, it is highly probable that considerable new production will be brought to light before January 1.



Map showing areas involved in lease play around Government Wells vicinity

This play reaches its fever heat just at the time that the low gravity oil market of the Government Wells district comes out of a pressed condition. For several months, it was necessary to materially reduce allowables to cut output to the market demand. Likewise, a five-cent per barrel cut in crude prices was posted for oil in the area. Now, foreign contracts, plus seasonal demand for fuel oil, etc., is draining storage supplies to a point that allowables have been increased.

NEW PIPE LINES

One gas and one oil line to start soon in Valley

McAllen, Texas.—Two new pipe line projects are in the making for the Rio Grande Valley. The first, a gas carrier, is ready to start with pipe being unloaded for the project. The second is an oil line, for which preliminary negotiations are supposed to be well underway.

Roy Moysten, H. F. Murchison and Showers & Moncrief, et al, all of Dallas, are unloading four-inch pipe and stringing it along right-of-way for a 30-mile line from the Samfordyce field to Mercedes. It will serve irrigation companies pumping water into the fruit and vegetable districts. Showers and Moncrief will supply a larger part of the gas at the rate of three cents per thousand at the well. It will be delivered for a price understood to be 22 cents per thousand. Many of these plants had been using fuel oil heretofore. Approximately 2,000,000 cubic feet of gas is expected to be used daily.

Valley Pipe Line Company, associated with the above, is making a survey of production in the Rio Grande City field, Starr County, for the purpose of extending its Port Isabel trunk line to serve this field. The present line is running near capacity, hence, it is possible that a new line will be laid the entire distance to tidewater to care for the output from these fields.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BEE COUNTY—		
Mills Bennett, Mrs. Wm. Rapp 3-A, C. A. Dugat sur, ab 521 (Dirks).	850	3839
Duncan & Perkins, Campbell 1, W. B. Blanchard sur (W. Tuleta)	1000	3942
Heyser, Heard & Walton, H. C. Young 11, F. P. Rawlins sur (Dirks)	650	3857
Home Corp., Inc., C. W. Bassinger 8, sec 7, Uranga gr (Dirks)	450	3840
Woods & Young, Geo. Ray 1, W. B. Blanchard sur (W. Tuleta)	672	3942
BEXAR COUNTY—		
Crouch & Shadrock, J. Barrigan 4, J. Simpson sur (Von Ormy)	4	720
Dorine Oil Co., S. Tudyk 2, 600 ft el, 400 ft sl blk 4, F. Cardenas sur	*	759
Eckert & Son, L. Brehm 13, P. L. Buquar sur (Eckert)	8	671
C. J. LeComte, A. Herbst 1, 150 ft sl and wl of tr in M. Leal sur.	*	377
N. Marosis, J. Florey Est. 2, S. Jett sur (Von Ormy)	*	lcn.

Company, Well and Location	Init. Prod. Bbls.	Depth
McPhee & Briggs, Florence Lamb 1, M. de Luna sur No. 4, 9200 ft sl, 800 ft sl of sur.	*	2452
Richcul Oil Co., C. H. Terrell 3, J. Simpson Sur No. 59 (Von Ormy)	5	802
DIMMIT COUNTY—		
Diamond Half Oil Co., A. Eardley Est. 1, 330 ft nl and wl 210.25-ac tr, R. G. Morgandale sur No. 6..	*	4256
DUVAL COUNTY—		
Atlantic Oil Prod. Co., J. F. Welder Heirs 1-B, sec 385 (Seven Sisters)	750	2497
Bridwell Oil Co., Bishop Cattle Co. 2, Sec 76 (Loma Novia)	200	2665
Gilcrease Oil Co., R. P. McLean 1, sec 62 (Loma Novia)	200	2535
Frank Gravis, J. W. Byland 3, blk 4 sec 78 (Loma Novia)	470	2635
Claud Hamill et al, C. W. Hahl 2, blk 3, sec 78 (Loma Novia)	720	2644
Highland Oil Co., Wm. Hubbard 3, Sec 75 (Loma Novia)	200	2598
Magnolia, C. W. Hahl 9, sec 67 (Loma Novia)	750	2625
Emil Labbe 2, sec 2 (Labbe)	¶25	2488
Santa Clara Oil Co., J. F. Welder Heirs 10, sec 385 (Seven Sisters)	1000	2497
Shell, M. C. Hubbard 8, sec 77 (Loma Novia)	500	2742
M. C. Hubbard 9, sec 77 (Loma Novia)	1200	2727
Smith & Hamill, M. C. Hubbard 11, sec 77 (Loma Novia)	552	2640
M. C. Hubbard 22, sec 77 (Loma Novia)	850	2672
M C.. Hubbard 26, sec 77 (Loma Novia)	576	2688
Texas Co., H. Wendt 10, sec 68 (Loma Novia)	816	2647
HIDALGO COUNTY—		
W. F. Lacy, Seabury et al 1, tr 256, por 38 (Samfordyce)	350	2793
LIVE OAK COUNTY—		
G. C. Beaucamp, S. A. Joint Stock Land Bank 1, 150 ft nl and el lot 10, J. Turner sur	*	lcn.
Conway & Beuscher, A. Sanger 1, 150 ft due w of center of nwl of sec 224, but in GC&SF Ry. sur No. 383	*	3255
McMULLEN COUNTY—		
L. O. Gleason, Fitzpatrick 1, 3860 ft s Nueces river and 2000 ft w of el of J. S. Loving sur No. 52	*	2106
L. D. Ormsby, Jacobs 3, 150 ft sel, 1000 ft nel Sparks sur No. 18	*	988
MILAM COUNTY—		
C. F. Drake et al, Standard Coal Co. 1, 970 ft swl, 1700 ft sel of G. L. Johnson sur	*	1569
Gates et al, Johnson 1, 330 ft swl, 480 ft nwl of ne 100-ac tr, J. J. Acosta sur	*	1620
NUECES COUNTY—		
J. K. Culton, H. B. Baldwin et al 1, 330 ft nl, 483 ft el of 85.8-ac tr, blk 28, Russell Farm blks, opens new field 1 mi w of Corpus Christi	¶2-20	4082
Houston Oil Co., Mrs. J. L. McGregor 5, sec 311 (Saxet)	450	4871
La Jita Oil Corp., Richard King Est. 1, se sw sec 22, King Ranch sub (King) perf csg 3983-89 ft.	¶20-10	6008
Shell Pet. Corp., E. F. Flato 1, tr 9 and 10, H. B. Sheppard Farm Lots (Saxet) pb and perf csg 4542-50 ft	650	7006
Texon Royalty Co., M. B. Humphreys 1, J. W. Stevens sur No. 406 (Nueces) pb and perf csg 2432-34 owwo, former td 4875 ft, sdtr 4380 ft, dr ahead, then pb	¶20	4920
SAN PATRICIO COUNTY—		
Plymouth Oil Co., E. H. Welder 18-C, sec 48, Welder sub (Plymouth)	500	5629
TRAVIS COUNTY—		
J. E. Robertson et al, J. F. Smith 2, L. Kimbro sur, 150 ft nel, 300 ft nwl 113-ac tr (Kimbro)	*	725
VICTORIA COUNTY—		
Smith & Gulf, E. Bohn 1, SA&MG sur No. 5 (Placedo)	185	4775
WEBB COUNTY—		
Mills Bennett, M. Lopez 2, sh 6-B, sec 73 (Lopez)	295	2216
M. Lopez 3, sh 6-B, sec 73 (Lopez)	298	2227
French Oil Corp., J. Guerra 1, 1650 ft sel, 330 ft swl sec 334	*	3272
Magnolia, Brennan Benavides 17, blk 327, Arispe gr (Cole)	168	2761
Benavides 10-G, blk 154, Arispe gr (Cole)	60	2768
R. E. Misner, Garcia 1, 1120 ft wl, 1000 ft wl se sec 457	*	2505
J. J. O'Hern, S. Benavides 3, blk 189, Arispe gr (Cole)	288	2769
Texas Co., M. W. Brennan 6, blk 326, Arispe gr (Cole)	288	2777
WILLACY COUNTY—		
South Texas Dev. Co., F. Armendiez 1-A, 280 ft nl, 7798 ft wl of Little sh 4, 2606-ac tr	†	5315
WILLIAMSON COUNTY—		
Brown et al, Mays 1, 2700 ft nwl, 900 ft nel of lease, T. A. Moore sur..	*	941
Hayes Gee, Coupland State Bank 1, 3000 ft nl, 150 ft el of tr, W. Lancy sur	*	1005
Taylor Ref. Co., Carlson 1, 450 ft nl, 150 ft el of 60-ac tr, R. Dunman sur	*	1653

*Failures; †Junked; ¶Million cu. ft. gas.

PEARSALL OUTLET

Amerada building pipe line in Frio County area

Pearsall, Texas.—Amerada Petroleum Corporation is constructing a four-inch line from its W. R. Smith lease in the Pearsall field, Frio County, to its central tank farm on the Halff and Oppenheimer lease, thence to a 10-car loading rack on the Missouri Pacific railroad right-of-way at the town of Melon, the total distance being about eight miles. It is to be completed by November 20.

It will flow oil by gravity from the Smith lease to the tank farm, there being a 35-foot drop in elevation. A booster station will be constructed at the tank farm to push the oil the remainder of the way.

This concern is reported to have made a deal for the sale of the output from this lease, but details of the deal have not been announced. It has approximately 15,000 barrels of both high and low gravity oil in storage and has cut back the output of the wells, due to lack of storage facilities. The company now is expected to resume its development campaign on the block, although no announcements have been made.

LOPEZ EXTENSION

New well establishes that field is three miles long

San Antonio.—Nixon & Talbot's W. C. Billings 1, NW SE SE Section 113, Webb County, is completing at 2177 feet to definitely tie the Lopez field and its south extension together as one sand blanket. Lopez field, as a result of this strike, is now about three miles long and more than one-half mile wide, with predictions being that it will be one of the larger fields of the Mirando district.

The Billings well cored the sand at 2170-77 feet, but test tool slipped to 2172 feet while it was being run. The test, however, showed 300 feet of pipe line oil in 10 minutes. Oil was still coming into the hole when the tool was closed. The pressure was considered sufficient to assure a flowing well. Elevation is 623 feet, derrick floor.

C. H. Lewis' Lopez, south of the field, got the sand considerably lower than the main field, causing many to suggest that it was in another lens in the same general horizon. The well is now reported to be making a slight bit of water, suggesting that it is low on the structure.

Mills Bennett added two producers on the M. Lopez lease in the main field. No. 2 flowed 295 barrels per day through half-inch choke, sand at 2207-16 feet. The third well flowed 298 barrels per day through half-inch choke, with 80 pounds tubing pressure and 360 pounds casing pressure.

The 100th oil producer in the Samfordyce field of Hidalgo and Starr Counties was completed during the week, and activity continues at almost the same pace as during the peak of development in this 14-month oil producing district. Seven rigs were running in the Hidalgo County portion of the field and three more were active in the Starr County sector.

Following this trend northwest into Starr County, T. K. Irwin et al's Starr County Cattle Company 1, Block 58, Jeffries Lambeth subdivision, Porcion 89, near the Barbacoas field, was waiting on cement after setting 5 3/16-inch atop sand at 2648-54 feet. The well is in sidetracked hole, originally drilled to 2817 feet, but plugged back.

In the Mercedes field, Hidalgo County, Union Sulphur Company has resumed operations in No. 5, which drilled to 7529 feet and made some oil through perforations at 7396-7416 feet and 7479-7510 feet. This well likely will be sidetracked and the producing level recored, but the details have not been officially announced. No. 6 is drilling at 7146 feet.

BEE COUNTY POOLS

New wells completed at West Tuleta and Caesar

San Antonio.—Several completions in the Dirks-West Tuleta area and a slight southwest extension to the Caesar field featured Bee County activity during the week. One key wildcat was started on the Beeville prospect.

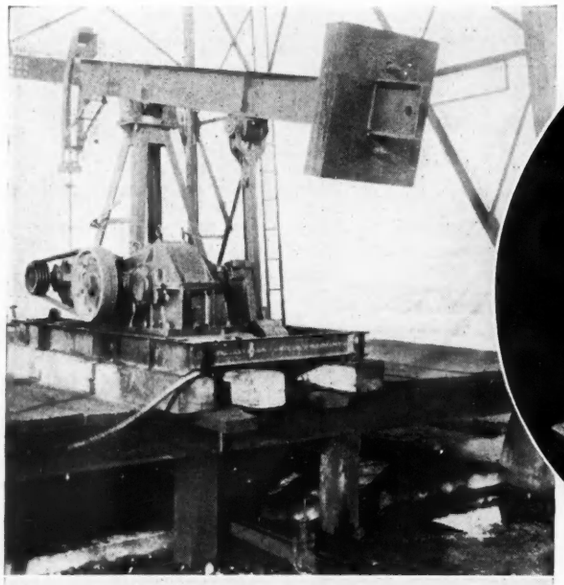
Mills Bennett's Rapp 3-A flowed 30 barrels per hour through quarter-inch choke, showing working pressure of 510 pounds and casing pressure of 650 pounds. The well logged sands at 3829-42 feet and 3857-61 feet. Heyser, Heard & Walton's Young 11, flowed 24½ barrels per hour through quarter-inch choke, showing 435 pounds tubing pressure and 800 pounds casing pressure. It logged sand at 3797-3815 feet and 3833-51 feet, but is bottomed at 3857 feet in shale. Home Corporation's C. W. Bassinger 8 made 21 barrels per hour through quarter-inch choke from broken sand at 3796-3840 feet. All these wells are in the Dirks field.

In the West Tuleta field, Duncan & Perkins' Campbell 1 flowed 38 barrels per hour through quarter-inch choke from sand at 3936-42 feet, showing tubing pressure of 750 pounds and casing pressure of 900 pounds. In the same field, Woods and Young's Ray 1 is a 28-barrel per hour well through flow valves from 3939-42 feet.

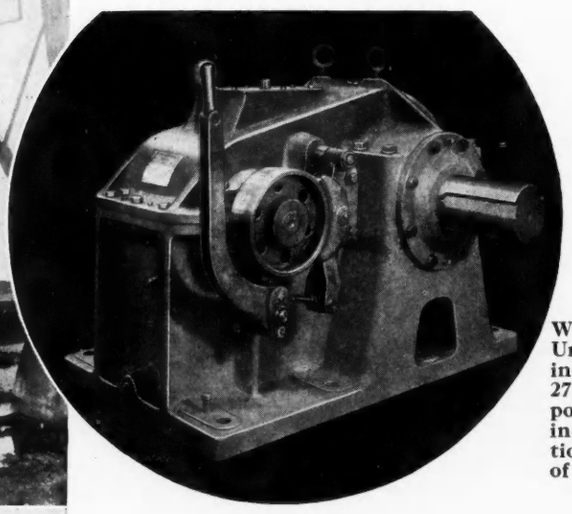
Clyde Echols et al's J. T. Hudman 1, in the extreme southwest corner of the Caesar field, cored Pettus sand at 3081-88 feet, elevation 437 feet, derrick floor, and showed 475 feet of oil and 15 pounds pressure in 15 minutes through quarter-inch chokes. It is now being completed.

WESTINGHOUSE GEAR UNITS

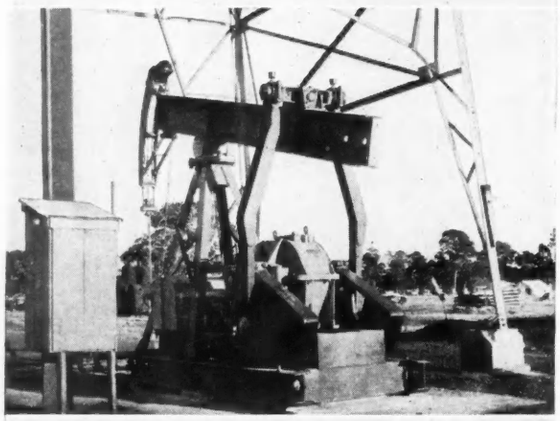
MEET *every* PUMPING REQUIREMENT



Installation of a Westinghouse OP reduction gear unit. Low cost of installation, minimum wasted power, and extremely low maintenance charges are characteristics of these units.



Westinghouse Gear Units are available in ratings of 10, 20, 27, 35 and 45 horsepower, to meet the individual production requirements of every type of well.



A typical installation of a twin crank individual pumping power unit, equipped with Westinghouse reduction gear unit.

Whether your application calls for right-hand or left-hand drive; for floor-type portable units or foundation-type rig-front installation; for single well pumping or the pumping of a second well through a back crank arrangement—Westinghouse Gear Units will meet your requirements.

These units may be driven by electric motor, oil engine, or multi-cylinder gas engines. Normal oil field rating 10 to 45 hp. at 20 strokes per minute.

CHECK THESE ADVANTAGES

1. Holding brake has ample capacity to hold the crank in position.
2. High Efficiency—from 96 to 98 per cent, Timken bearing equipped throughout.
3. Plenty of Reserve Capacity—BPT "tough-hard" heat-treated gears and shafts with large safety factor assure long life.
4. Weather-Proof—no cover or protection is required.
5. Automatic Oil Cleaning—a settling chamber in the gear case separates foreign matter from the lubricant.
6. Single Helical Gears operate smoothly, quietly, and efficiently in either direction.

R-65016

DISTRIBUTED BY

OIL WELL SUPPLY COMPANY

Subsidiary of United States Steel Corporation

Westinghouse

Water in Wildcat

TEST IN CHAMBERS COUNTY DISAPPOINTS MANY TRADERS

WEEKLY STAFF REPORT

Houston.—Salt Dome Oil Company's Lawrence 1, in the Cotton Lake Area Chambers County, proved disappointing during the past week when salt water sand was cored in the Frio formation. The well was one of the most exciting tests on the Texas Gulf Coast and many thousands of dollars were lost when it failed to show. Leasing in the area has been at a high ebb for three months, with acreage being sold at $200 per acre and royalty selling at $175 per acre base.

The well created excitement when an odor of oil was found from 6659 to 6674 feet. The disappointing news on the well broke when it cored five feet of fine grey porus sand from 6797 to 6802 feet which was classed as salt water sand. A salt water sand was also found from 6820 to 6900 feet. It is reported that when the well had an odor of oil that over $100,000 was spent in the area in two days for royalty.

At the end of the week the operators were running an electrical logging device to 7000 feet, the contracted depth, and will probably abandon at that depth. The disappointing news broke when the well drilled to 6769 feet and cored sand with an odor of oil to 6774 feet and from 6774 to 6791 feet it had sand and sandy shale with a slight odor of oil. From 6797 to 6802 feet a grey porus sand was cored with no showings which was classed as salt water sand. The hole was drilled on down to 6820 feet where a salt water sand was found in the Frio formation. The sand was found on down to 6960 feet. The well is supposed to have had a good sand section but all of it except the "teaser" carried salt water.

Laurence 1 topped the Discorbis at 5883 feet, Heterostegina at 6185, Marginulina at 6430 feet and the Frio at 6769 feet. It was running from normal to 150 feet high for the area, and it was reported the previous week that several of the leading geologists had predicted that the first sand cored would be salt water sand.

The test is located 1913 feet south and 42 degrees west from the northwest corner, along the southwest line, and 330 feet north and 48 degrees east from the southwest line of the Lawrence 344.6-acre tract in the J. Grant Survey, Chambers County.

Turtle Bay

Northeast of the Cotton Lake prospect, and southwest of South Gulf Oil Company's White 1, in the L. Bryan Survey, which was abandoned at 7114 feet in salt water sand, Stanolind Oil & Gas Company has made location for a wildcat well in the Turtle Bay area. A. D. Middleton 1, is located 426 feet from the west line and 466 feet from the south line of a 120-acre tract, or 1000 feet from the east line and 466 feet from the south line of S. Burney Survey.

This well is in the area where another exciting lease play has been in progress for some time, with several of the major and independent operators taking leases at over $100 per acre. It resembles the Cotton Lake play in leasing activity. Stanolind Oil & Gas Company has worked the area with geophysical instruments and so have other major companies. The state lands in the Turtle Bay have been leased from the State by major oil companies who placed their bids in some time ago.

Anahuac Field

Two new producers were added to the Anahuac field, Chambers County, during the past week. Sun Oil Company completed its White 3 to extend the north Anahuac area one location west. White 3, J. MaGehe Survey, came in from 7074 feet, making 28 barrels per hour through a quarter-inch choke. The gas sand was found at 6932 feet and the oil sand at 7006 feet. Seven-inch casing was set at 7040 feet. The operators are rigging up on White 4, one location west of White 3.

Humble Oil & Refining Company's Broussard Hebert B-1, on the east side of the field was completed at 7082 feet for 20 barrels per hour through a quarter-inch choke. Tubing pressure was 2025 pounds; casing pressure was 2700 pounds. The test is located 933 feet south of Humble Oil & Refining Company's Engles 1, H. & T. C. Survey, Section 58.

Humble Oil & Refining Company's White 3, north offset to Sun Oil Company's White 3, was preparing to be completed at the end of the week. Bottom of the hole is 7085 feet and tubing is being run. Humble Oil & Refining Company, R. A. Mason and Glenn H. McCarthy have made location for White 4. It is 933 feet west of White 3 and is a north offset to Sun Oil Company's White 4, in the J. MaGehe Survey.

Conroe Field Extended

The Conroe field, Montgomery County, was extended 1100 feet during the past week when Seaport Oil Company's State Land 2 came in for 450 barrels per day from 5158 feet. The oil flow was through a quarter-inch choke and had 500 pounds tubing pressure.

State Land 2 was drilled 21 feet below the water level for the field, and it made a producer showing no salt water. It is generally believed that the operators cut a fault, or that some unusual condition exists. The operators surveyed the hole and found it to be straight. The well was drilled by Glenn H. McCarthy Drilling & Producing Company, a Houston Drilling contractor. It is located 1100 feet from the rim of production and is in the T. & N. O. Survey, No. 3.

In the Cleveland field, Liberty County, Gulf Production Company has made location for Kirby C-12. It is 1234 feet north and 2333 feet east from the northeast corner of the J. Eldridge Survey in the J. Pleasant Survey.

VAN VLECK WELLS

Discovery producer now yielding pipe line oil

Houston.—Skelly Oil Company has evidently been able to cut off the salt water in Cobb 1 and 3 in the Van Vleck field, Matagorda County; November 8, 1935, the wells were producing pure pipe line oil.

Cobb 1, M. Cummings Survey, the discovery well for the field, perforated casing between 7465 and 7468 feet and without setting screen the well came in for 199 barrels per day from a new sand. The oil flowed through a three sixteenths-inch choke with 930 pounds pressure on the tubing and 1980 pounds on the casing. The well had originally shown salt water on several drill stem tests between 7460 and 7495 feet.

The same operator's Cobb B-3, 2235 feet northeast of the discovery well, M. Cummings Survey, was also completed in a new sand at 8225 to 8228 feet. Like the discovery well, Cobb B-3, did not have screen set in the hole. The casing was perforated and the well came in for 48 barrels in eight hours through a one eighth inch choke. Tubing pressure was 975 pounds; casing pressure 1000 pounds. This well has had trouble with salt water but the operators have been successful in shutting off the water. With two wells completed it gives the Van Vleck field three producing sands. The sands are found from 6993 to 7023 feet, 7465 to 7468 feet, and from 8225 to 8228 feet. The same operator's Johnson 1, 1950 feet south of the discovery well was down to 5152 feet at the end of the week.

Five Corners Prospect

The Texas Company's Pierce Estate C-1, on the Five Corners prospect, J. Caldwell Survey, Wharton County, was drilling ahead in shale at 6173 feet November 8. Cores of shale were taken at 6139 to 6141 feet, sand and shale with an oil show from 6141 to 6145 feet, sticky shale and some sand with no showing from 6145 to 6149 feet, sand with an oil and gas showing from 6149 to 6156 feet, sand and shale with an oil and gas showing from 6156 to 6159 feet, and a sand with no showings from 6159 to 6163 feet. This wildcat is located approximately eight miles southeast of the Pickett Ridge field, Wharton County, and three miles northeast of Pure

Oil Company's E. Paige 1, on the Blue Basin prospect.

Pure Oil Company's E. Paige 1 Blue Basin prospect, J. Pirie Survey, was drilling in shale at 6262 feet at the end of the week.

In the Pickett Ridge field, Wharton County, The Texas Company's Pierce Estate A-4, was reaming down to set casing at 4712 feet November 8. An electrical logging device was run between 4650 and 4718 feet, the bottom of the hole. The oil and gas sand was found from 4712 to 4718 feet. The well topped the Discorbis at 4020 feet and is running lower than the other two producers in the field. It is in the I. & G. N. Survey, Section 38.

Sterling Oil & Refining Company's Janek 1, East Barnard prospect, T. Scott Survey, was turned into the separator, and made 200 barrels of salt water, lots of gas and a pint of oil through a nine sixty-fourths inch choke. Tubing pressure was 1025 pounds. The well is producing from 7875 feet. It is reported that the operators will work the well over.

In Burleson County, Red Bank Oil Company has made location for Q. V. Crain 1. It is located 330 feet from the north and west line of a 148-acre tract and W. C. Pierce Estate Survey, Abstract 297.

AXTELL SPUDDERS

Light Running, Easily Handled and Faster Drilling with Longer Strokes

CAPACITIES: 500 TO 2200'

5 SIZES: NO. 4, 7, 12 AND 15

WRITE TO US

AXTELL CO.
FORT WORTH, TEX.

DICKINSON EXTENDED

Hastings, Old Ocean and South Houston are active

Houston.—The Dickinson field, Galveston County, was extended 1000 feet east November 8, 1935, when Humble Oil & Refining Company's Townes 1 came in for 450 barrels per day from 8065 feet.

The well is located 1000 feet east of Townes 1, J. Jones Survey. The hole was drilled to 8065 feet, and sand and shale showing oil was cored from 8004 to 8054 feet. Seven-inch casing was set at 8030 feet, and the well came in for the above initial production through a quarter-inch choke. Tubing pressure was 1900 pounds; casing pressure 2500 pounds.

The same operator's Anderson 1, north offset to Danielson 1, the deepest producer in the Texas Gulf Coast, J. Sellers Survey, perforated casing from 9098 to 9127 feet with 10 holes, and a drill stem test was made. The test was made from 9098 to 9107 feet and tested dry. The casing was perforated again from 9095 to 9104 feet with 18 holes, and the second drill stem test was made. The test was made from 9088 to 9107 feet, and this time in 11 minutes through a quarter-inch choke, 15 feet of mud was recovered. The casing was perforated for the third time between 9089 and 9093 feet with 10 holes. A drill stem test from 8879 to 9107 feet showed 1300 pounds pressure in 28 minutes. The operators were unable to close the tool, and the pressure built up to 2200 pounds. The test was made through a quarter-inch choke.

The same operator's Bayou Development Company 1B, 1223 feet northeast of Bayou Development Company 1, J. Sellers Survey, was drilling in sandy shale at 8673 feet, after coring sand and shale showing oil from 8641 to 8671 feet. Maco Stewart A-6, J. Sellers Survey, was reaming at 8637 feet after topping a sand at 8621 feet.

Humble Oil & Refining Company completed Cannon 2 in the Hastings field, Brazoria County, during the past week to extend production one location north on the west side of the field. The well was completed at 5929 feet for 25 barrels per hour through a quarter-inch choke. Tubing pressure was 950 pounds; casing pressure 950 pounds. Top of the oil sand was found at 5706 feet. The operators have made location for Nelson 1, 660 feet north of Cannon 2. It is 330 feet north and west of the southeast corner of Lot 3, Section 36, in the H. & T. B. Survey, Section 36.

The productive area was being extended one location south on the east side of the field at the close of the week. Stanolind Oil & Gas Company's Hutcheson 2, H. & T. B. Survey, No. 36, was waiting on cement to set at 5934 feet in oil sand with the bottom of the hole at 6080 feet. Seven-inch casing was set.

Harrison & Abercrombie were preparing to complete their second well in the Old Ocean field, Brazoria County, November 8. The operators were washing the well in after setting screen between 8643 and 8647 feet. The operators had sand showing oil from 8643 to 8650 feet.

The second failure of the South Houston, Harris County, field was reported during the past week. Stanolind Oil & Gas Company's Drilling District 43, Unit 1, (Wells), H. & T. B. Survey, No. 5, was junked and abandoned at 5600 feet in heaving shale. Seven and five eighths-inch casing was stuck at 5514 feet and the bottom portion collapsed. Salt water sand was cored from 4517 to 4521 feet.

Cockburn Oil Corporation's Houston Ship Channel 1, Battle Ground prospect, A. McCormick Survey, Harris County, was abandoned in the Frio formation November 8 at 5785 feet, after drilling salt water sand from 5560 to 5568 feet.

TEXAS GULF COAST

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANAHUAC—		
Humble, Broussard-Hebert 1-B	480	7082
Sun, White 3	672	7084
BATSON—		
Texas Co., Christian 1	470	4629
CONROE—		
Seaport Oil Co., State Land 2	450	5158
DICKINSON—		
Humble, Townes 2	450	8065
ESPERSON—		
General Crude, Davis 3 (wo)	40	4132
HASTINGS—		
Humble, Cannon 2	600	5929
Stanolind, Ford 2 (wo)	340	6112
Whiton 1	491	6080
HIGH ISLAND—		
Stanolind, Mars McLean A-4	325	4805
LOUISE—		
Pure, Garrett B-1	229	6448
MANVEL—		
Alpha Pet. Co., Hart 1	360	5721
Texas Co., Belcher B-16	445	5155
ORCHARD—		
Gulf, Moore A-1	*	1128
RACCOON BEND—		
Humble, Woodley 15	115	4144
SOUTH HOUSTON—		
Stanolind, District 43, No. 1 (Wells)	*	5600
TOMBALL—		
Humble, Holderrieth A-2	540	5545
Wilke 1	550	5570
Shell, Rudel 4	41	5580
HARRIS COUNTY—		
Cockburn Oil Corp., Houston Ship Channel 1, Battle Ground prospect, A. McCormick sur	*	5785

*Failures; †Junked; ¶Million cu. ft. gas.

SHEPPARD MOTT WELL

Produces as second test drills heaving shale

Houston. — H. M. Smith Corporation's Wadsworth Estate 1, west flank of the Sheppard Mott Dome, S. R. Fisher Survey, Matagorda County, has been the first well on the dome to show oil in commercial quantities.

During the past week the operators

were trying to shut off a salt water sand which was believed coming from above the bottom of the hole, where a break in the casing occurred.

The well on November 6 started making heads of oil, and four hours later was flowing pipe line oil at the rate of 250 or 300 barrels daily. For 14 hours the well made pipe line oil and then salt water started showing up and the operators were forced to shut the well in.

The bottom of the hole is at 8842 feet in 17 feet of saturated oil sand. After setting 200 feet of screen, the operators swabbed down to 5000 feet and the hole was filling up at the rate of 200 feet with each swab, which was run every 15 or 20 minutes. The well showed no pressure and was shut in to build up pressure. The well made pure 39.2 gravity oil at 70 degrees F., and the later salt water encroachment led to belief it was coming in from above.

H. M. Smith Corporation's Wadsworth 1 drilled through the heaving shale at Sheppard Mott to 8842 feet with a rig ordinarily used to go 6000 or 7000 feet and it is remarkable that the operators ever got through the shale. After drilling to 8842 feet in oil sand, the operators could not come out of the hole to make a setting. The heaving shale had caused a slushing and froze the pipe. An engineer was called in from a special drilling mud company and with the use of certain chemicals was able to unloosen the casing from the bottom of the hole. The mud used when going into the hole was 10.2 pounds per gallon and when it came out of the hole it was 9.5 pounds. The mud then was raised to an 11-pound weight in order to "plaster" up the gas sands which was contaminating the mud. The drilling procedure with mud control played a big factor in getting through the shale. Over 50 tons of a special drilling mud was used on this test in the heaving shale section. The worst of the heaving shale came in the Discorbis formation.

Helmerick & Payne's Hawkins 1, D. McCarthy Survey, 12,000 feet east of H. M. Smith's Wadsworth 1, on farm out acreage of Cockburn Oil Corporation, was drilling at 6489 feet at the end of the week.

Hawkins 1 is said to be running 1200 feet higher structurally than Wadsworth 1.

Helmerick & Payne's Hawkins 1, like H. M. Smith Corporation's Wadsworth 1, was down to 5944 feet and couldn't come out of the hole due to the heaving shale. The same engineer was called in on this well and the same procedure was used on this test as on Wadsworth 1.

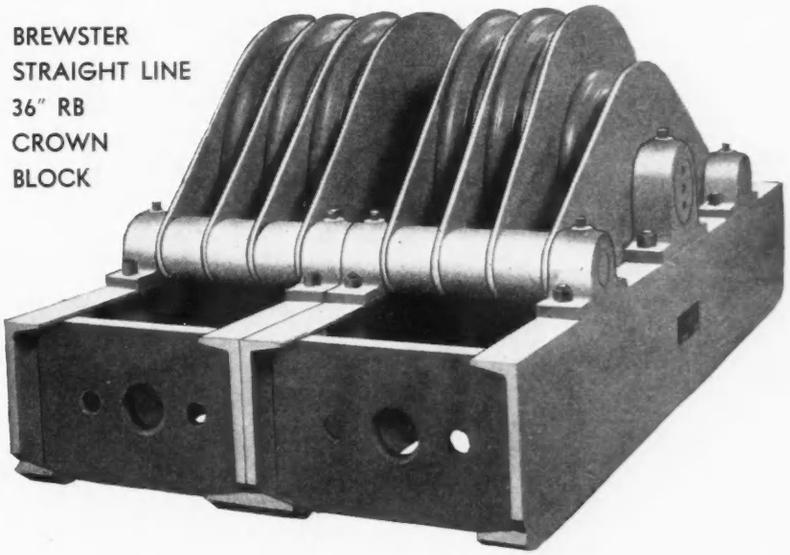
H. M. Smith Corporation's Wadsworth 1 is not equipped with as elaborate an outfit as that of Helmerick & Payne's well. It is reported that H. M. Smith has spent over $185,000 on his well combatting heaving shale in this area.

Cockburn Oil Corporation has drilled a number of tests on Sheppards Mott dome and has had showings of oil in the majority of the wells, but due to heaving shale has been forced to quit the wells. The two tests mentioned above are the first two to drill through the shale and have definitely proved the area as an oil field.

Future drilling in the field will be with mud control from the time the

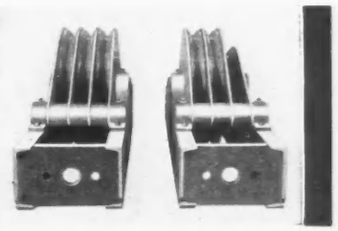
IT'S THE TOP!

BREWSTER
STRAIGHT LINE
36″ RB
CROWN
BLOCK



● No matter how up-to-date your rotary is, it certainly is no more modern than the crown block that tops it off. With this Brewster Straight Line 36″ RB Crown Block you will have the last word in drilling equipment.

● This Brewster Block complete weighs 6,050 pounds. The feature advantage is that it is made in two separate sections (see small illustration), carried to the derrick top separately, they are held firmly together with four ample sized bolts. The overall width is 47 inches, the length 7 feet 6 inches.



● The drilling sheaves are 36″ in diameter, turned from Manganese steel and ground to A.P.I. specifications for any wire line up to 1¼″. The small sheave is 24″ in diameter, made of electric steel and turned for cat line.

● All sheaves are individually lubricated through the 7″ center pin by Alemite connections. The drilling sheaves have specially designed heavy duty roller bearings, each made up of thirty rollers. The small sheave bearing is bronze.

● The list price on this Brewster Straight Line Crown Block is $1400 f.o.b. any Brewster Store. Inquiries are invited—but you really should see this crown block together with the Brewster Heavy Duty RB Traveling Block, two tough pieces of drilling equipment that can "take it".

The BREWSTER CO., Inc.

Phone 3181 **Shreveport, La.**

BRANCHES:

LONGVIEW, TEXAS
313 E. Cotton St.
Phone 781

LAKE CHARLES, LA.
Broad & Shattuck
Phone 256

HOUSTON, TEXAS
2000 Harrington St.
Phone C-6811

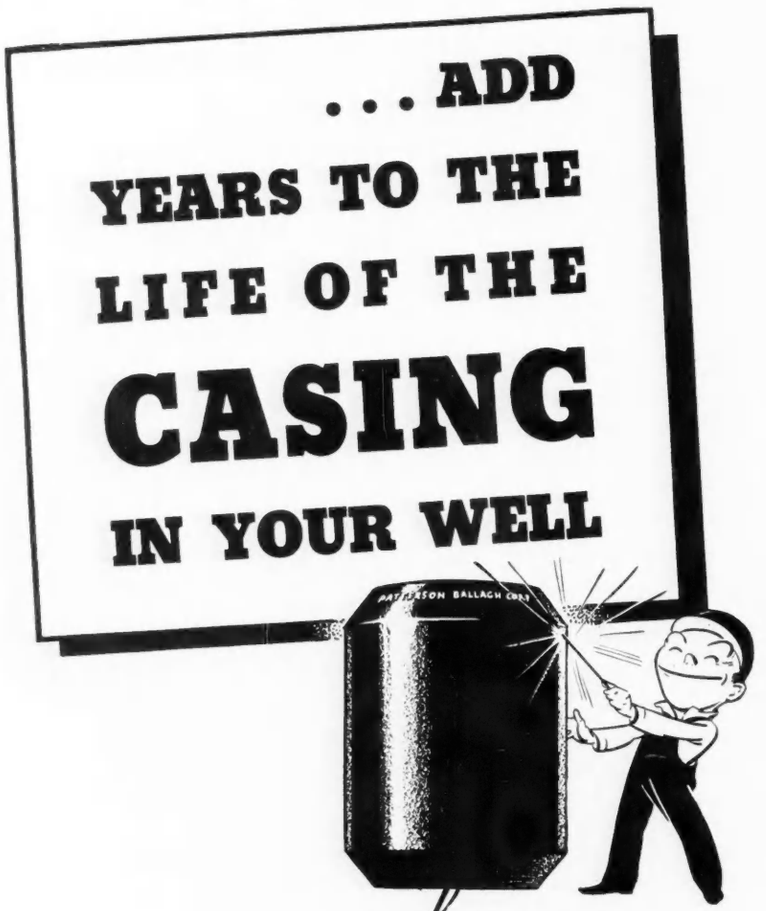
RODESSA, LA.
Phone
Rodessa Exchange

EXPORT OFFICE: Acme Well Supply Co., 136 Liberty St., New York City

wells are spudded in until they are through the shale. Proper care will be taken to prevent the shale from heaving.

Sheppards Mott dome is considered large in size, as can be seen in the comparison of H. M. Smith Corporation's Wadsworth 1 and Helmerick & Payne's Hawkins 1. The latter well is supposed to be on the top of the structure and is running considerably higher than the former well. If both wells prove commercial producers it will start a drilling campaign and millions of dollars will be spent combatting heaving shale. From an engineering standpoint much information will be learned and the other prospects in this area will be drilled, which heretofore have been condenmned due to the formation.

Continental Oil Company's Feife 1, Citrus Grove prospect, J. S. Chriswell survey, Matagorda County, is down to 7150 feet and is reported through the heaving shale for this prospect. It is the first well to penetrate the shale to greater depth. This well will drill down to the producing horizon below the shale and if it proves as an oil well it will be the second heaving shale prospect in this area proven for commercial production. This well has used special equipment that permits continuous drilling and circulation.



. . . for economy
specify Patterson Ballagh
PROTECTORS

PATTERSON-BALLAGH CORPORATION
Plant and General Offices:
1900 East Sixty-fifth St., Los Angeles, Calif., U. S. A.
Texas and Gulf Coast Distributors:
BETTIS SALES COMPANY
516 Merchants & Manufacturers Bldg., Houston, Texas
Oklahoma Office: 438 Northwest Twenty-Sixth St., Oklahoma City, Okla.
New York Office: 39 Cortlandt Street
Fresh stocks immediately available in:

Casper, Wyo.
Oklahoma City
Ada, Okla.
Lake Charles, La.
Houma, La.
Hobbs, N. M
Houston, Texas
Odessa, Texas
Kettleman Hills, Calif.
Bakersfield, Calif.
Ventura, Calif.
Los Angeles, Calif.

Sold by all Supply Houses

ST. MARTINSVILLE

Tide Water opens new Louisiana coastal field

Lake Charles.—A new oil field was established in the Louisiana Gulf Coast November 4, 1935, when Tide Water Oil Company's Smede 1, St. Martinsville prospect, St. Martin Parish, came in making oil and gas from 5582 feet in the Miocene formation.

Along with Tide Water Oil Company, Standard Oil Company of Kansas and Continental Oil Company hold acreage in the area. Several tests have been drilled on the St. Martinsville prospect which showed oil and one test drilled in the area to the north of Tide Water's well had five sands showing oil.

Tide Water Oil Company's Smede 1, is located 990 feet from the north and east line of the Smede 287-acre tract in Section 47-11s-6e, St. Martin Parish.

Superior Oil Producing Company and Woodley Petroleum Company have made location for a wildcat well on the Bayou Mallett prospect in Acadia Parish. Adams Smith 1, is located 1193 feet north, 35 degrees, 45 minutes west and 2395 feet south, 54 degrees, 15 minutes west of the southeast corner of Section 14-7s-1e, in Acadia Parish.

The Tepetate field, Acadia Parish, was extended three quarters of a mile southwest when Continental Oil Company completed its H. Klump 1, for 635 barrels in 14 hours. The well is producing from the regular producing horizon for the field. Casing was perforated from 8324 to 8334 feet and the well came in through a three eighths-inch choke with a tubing pressure of 600 pounds; casing pressure 900 pounds. At the close of the week the well was making salt water and the oil production was decreasing. It is believed that the operators failed to shut off part of the salt water sand. The well is located 660 feet west and 330 feet south of northeast corner of Section 34-7s-2w.

The same operator's Homeseekers 1, 4250 feet west and a little south of the discovery well, Section 29-7s-2w, was waiting on cement at the close of the week at 8220 feet.

SIX COMPLETIONS

Lake Charles.—There were only six completions reported along the Louisiana Gulf Coast during the past seven day period ending November 8, 1935. Of the six completions, four resulted in oil producers with an initial production of 3352 barrels.

SOUTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
DARROW—		
Humble, Gumble 4	*	6049
GILLIS—		
Union Sulphur, Mayo Reeves 4	500	6712
LEESVILLE—		
Texas Co., L. L. E. Leesville 32	*	4320
L. L. E. Leesville 38	1628	4037
TEPETATE—		
Continental, Klump 1	1080	8324
WHITE CASTLE—		
Shell, Watkins 27	144	4432

*Failures; †Junked; ¶Million cu. ft. gas.

Rodessa Growing

TWO RECENT COMPLETIONS START FLOWING DISTILLATE

NORTH LOUISIANA

WEEKLY STAFF REPORT

Shreveport. — Two more oil wells were completed last week in the Rodessa field bringing the total to 14 so far completed in that field since last July 16. However, only 12 are now producing oil, two of them having turned to gas wells with a heavy flow of distillate. Both of the latter were in the east part of the field.

One of the two wells completed last week was Arkansas-Louisiana Gas Company's Rodessa Oil & Land Company 3, SE SE 22-23n-16w, which came in flowing 92.04 barrels of 46 gravity oil per hour through half-inch choke on tubing, with casing pressure and tubing pressure of 1660 pounds, with a gas production estimated at 15 million cubic feet daily. The oil gas ratio was 27 barrels per four million cubic feet of gas. This test logged anhydrite from 5002 to 5530 feet, and seven-inch casing was cemented at 5953 feet; total depth was 6000 feet. This well extended oil production one location southward and almost to the townsite line.

This is the first real oil well completed by this Cities Service subsidiary in this field, a former oil well having gone to gas. The company had several gas wells in the field before oil was discovered.

The fourteenth oil well of the field was Haynes Production Company's H. Otwell 2, SW SW 14-23n-16w, an east offset to the same company's H. Otwell 1, the first well in the east part of the Rodessa oil area to show salt water. The new well showed no water and was completed November 7, flowing 216 barrels of oil per hour through 1⅞-inch choke on tubing. It flowed at the rate of 606 barrels per hour through two-inch choke on casing. Total depth is 6012 feet, base of anhydrite, 5535 feet.

The last well completed in Rodessa before these two wells was United Gas Public Service Company's Rodessa Oil & Land Company 2, NE NE 22-23n-16w, completed at 5986 feet flowing 34 barrels of oil per hour through half-inch choke on tubing and making an estimated one-half million cubic feet of gas. Later the well cleaned itself better and made 119 barrels of oil per hour through half-inch choke, flowing 1215 barrels within seven hours and making an estimated 400,000 cubic feet of gas daily. Later the well was flowing 97 barrels per hour through choke.

Prior to completion of Haynes Production Company's Otwell 2, the 11 producing oil wells at Rodessa for one 24-hour period last week produced 10,086 barrels of oil, with pipe line runs for the 24 hours totaling 9457 barrels. The combined daily production for the 24 hours ending at 7 a.m., November 1, was 10,403 barrels and pipe line runs totaled 10,928 barrels.

Rodessa field from discovery July 16, up to November 1, had produced a total of 516,466 barrels of oil.

Although the daily allowable for the Rodessa field for November was set at 7200 barrels by Dr. J. A. Shaw, director of the minerals division, Louisiana conservation commission, enforcement officials of this commission have been informed that each well completed during November will be allowed to produce 600 barrels per day, which was the per well allowable as of November 1 under the 7200-barrel allowable total. The allowable per well for October was 1000 barrels daily. However, the average allowable is made on the basis of a month so that a well can exceed its allowable for one day or more, but must cut it down to come within the average for the entire month.

Seven new locations were announced in the Rodessa field last week, of which one was for Cass County, Texas, the second location for an oil test in that county since the discovery of oil in Rodessa, and another was for the first real attempt to extend the Rodessa field into Miller County, southwest Arkansas. The Cass County location was made by R. W. Norton of Shreveport, in Lizzie Haywood 1, (440-acre tract) Priscilla Evans Survey, one-half-mile west of his Foscue 1, Section 20-23n-16w, drilling below 5600 feet. He is moving in materials.

In Miller County, Arkansas, Governor O. K. Allen and Lieutenant-Governor James A. Noe of Louisiana have assigned 600 acres of their 1200-acre tract to Haynes Production Company which will drill a test for them, Embree Heirs 1, SW SW 9-20-28. Materials are being moved in.

Three other new locations were: Pelican Oil & Gasoline Company's Sexton Units 4, 5 and 6, all in Section 14-23n-16w, where this company owns a tract of 120 acres.

The other two new locations were offsets to two wells that Grady Vaughn was testing last week, both of these operations being outpost wells. Vaughn made location for Comegys 2, east offset to Comegys 1, SE SE 10-23n-16w, one mile northwest of production. This well was being given a production test last week at total depth of 5996 feet. The other new location was Hunter and Derryberry 2, east offset to Hunter and Derryberry 1, SW NE NW 14-23n-16w, which was ready to drill plug and test at total depth of 6026 feet.

In a number of bids opened for state lands in Louisiana last week by Lucille Mai Grace, register of the Louisiana Land office, two bids were submitted for water bottom lands in and near the Rodessa area in townships 21, 22 and 23 north, ranges 14, 15 and 16 west, as follows: W. T. Burton, Sulphur, Louisiana $250 cash and $10,000 from oil plus royalty; and C. M. Brenner, Shreveport $100 cash, and $100,000 from oil, plus royalty. Award of the leases is subject to approval by the governor.

Rodessa Drilling Report

Arkansas-Louisiana Gas Co.'s Rodessa O&L Co. 4, NW NE 23-23n-16w, dr 4452 ft shale & lime; Rodessa O&L Co. 5, SW NE 22-23n-16w, spd.

American-Liberty Oil Co.'s J. B. Rodgers 1, C. M. Robinson sur (Cass Co., Texas), spd, dr under surf csg cemtd at 250 ft.

Bartex Pipe Line Co.'s B. H. Norton 1, CSE NE 18-23n-16w, spd, Sarah Bruner 1, NE SE 13-23n-16w, rur.

Danciger O&R Co.'s Willis 1, lot 5, blk 7, 23-23n-16w, spd & finishing rur.

Haynes Prod. Co.'s W. B. Lawton 3, NW SE 14-23n-16w, dr 4508 ft shale; Sexton 2, 14-23n-16w, anhydrite 5092-5607 ft, dr 5653 ft shale & lime; Sexton 3, NE SW NE 14-23n-16w, 9⅝-in csg 2095 ft, dr 3005 ft, lime; Sexton 4, SE SW NE 14-23n-16w, rur.

W. M. Layton's Tyson 1, SE NW 22-23n-16w, dr 4828 ft.

Lion O&R Co.'s J. M. Wynn 1, NE SW 9-23n-15w, rur.

McAlester Fuel Co.'s Noah Tyson 1, SE NW 22-23n-16w, 9⅝-in csg 2072 ft, dr 3197 ft.

M. H. Marrs et al's Hunter 1, SE NW SW 13-23n-16w, rur.

Monahan Oil Co.'s Comegys 1, SE NE SE 10-23n-16w, top anhydrite 5125 ft, dr 5189 ft anhydrite & shale; Comegys 2, 10-23n-16w, lcn.

R. W. Norton's Caddo Levee Bd. 2, NW SE 21-23n-16w, NW SE 21-23n-16w, dr 3827 ft; Tyson 1, NW NW 13-23n-16w, anhydrite 5056-5568 ft 9-in csg 5160 ft dr 5681 ft; Foscue 1, NE SE 20-23n-16w, top anhydrite 5093 ft, 9⅝-in csg 5147 ft, dr 5717 ft; Dodd 1, CSE NW 13-23n-16w, mim; Lizzie Haywood 1, (440-ac) Priscilla Evans sur (Cass County), mim.

Pelican Oil & Gasoline Co.'s Sexton Unit 2, SW SE NE 14-23n-16w, 10¾-in csg 2100 ft, dr 4170 ft; Sexton Unit 3, 14-23n-16w, 10¾-in csg 2100 ft, dr 4022 ft; Sexton Unit 4, 14-23n-16w, lcn; Sexton Unit 5, 14-23n-16w, lcn; Sexton Unit 6, 14-23n-16w, spd.

United Gas Pub. Serv. Co.'s Ardis 1, SE SW SE 14-23n-16w, dr 4262 ft; Poole 1, NE NE 21-23n-16w, dr 4346 ft.

United Prod. Co.'s Thurmon Unit 1, Jno. Coleman sur (Cass County), dr 5053 ft.

Grady Vaughn's Comegys 1, SE SE 10-23n-16w, elev 216 ft anhydrite 5095-5714 ft, top hill sand 5745 ft, cemtd 7-in csg 5906 ft, trying to wash in so, td 5996 ft; Comegys 2, 10-23n-16w, lcn. Hunter & Derryberry 1, SW NE NW 14-23n-16w, 7-in csg cemtd 5906 ft, arr dr in & test td 6026 ft; Hunter & Derryberry 2, 14-23n-16w, lcn.

FIRST ACID

United Gas well sets fashion at Sugar Creek

Shreveport.—The first gas well in the Sugar Creek gas field, Claiborne Parish, Louisiana, which produces a saturated gas from the oolitic lime of the Glen Rose at 4300 feet, was treated with acid last week.

The well is United Gas Public Service Company and associates' Kilpatric 1, Section 17-19n-5w. It was completed February 28, 1930. Since then 10 other gassers have been completed in the field, which has been developed on a unitized plan. The production as a result of the treatment was practically doubled to three million cubic feet of gas daily. The well was completed with a much larger initial yield.

DEEP TESTS PLANNED

Impetus furnished by Rodessa showing, report

Shreveport.—On the impetus of continued successful operations in the Rodessa field, Caddo Parish, North Louisiana's first 6000-foot oil production, more locations for wildcat tests to explore the oolitic lime horizon of the Glen Rose of the upper Trinity are being made and other blocks for expected tests to this formation are being assembled.

Two locations were made last week for proposed 6000-foot tests on the south flank of the Monroe Uplift, one in Ouachita Parish and one in Caldwell Parish. In the former parish Gus Primos of Monroe assembled 3000 acres for Avent 1, center Section 8-17n-4e. In Caldwell Parish, A. R. Taylor of Nevada, Missouri, has a 7000-acre block of leases centering in Section 42-14n-4e, and has made location in that section for Hawkins 1.

A. H. Tarver of Shreveport and R. L. Gay of Zwolle have started cleaning out to deepen to the oolitic lime of the Glen Rose, expected to be logged before 5000 feet, on Tarver's Baker 1, NW NE 36-8n-12w, from 4127 feet. This well is the highest structurally ever drilled in the Zwolle field, having logged top of the Washita at 3580 feet.

J. M. Collins and associates of Shreveport have taken over a 4500-acre wildcat block in the Alabama Bend Section of Lake Bisteneau, Bienville Parish, located in township 15 north, range 10 west, and will start a 5000-foot test before January 1. The block was originally assembled by W. M. McDowel.

Belchic and Laskey, who discovered the Blanchard gas field, Caddo Parish, which produces from the upper-lower Cretaceous contact at 2700-2800 feet and from the Nacatosh at 900 feet, are planning a 5000-foot test in that field.

GRIZZLY
HIGH QUALITY
PRODUCTS

The GRIZZLY LINE
Full-Moulded Brake Blocks
Drill Pipe Protectors
Powerflex Rotary Hose
Cub Rotary Hose
Rotary Hose Couplings
Flexible Discharge Unit
Raw-Edge Belting
Transmission Belting
Conveyor Belting
Elevator Belting
Endless Belts
Mechanical Rubber Goods

Assure maximum safety, efficiency and economy for the deepest oil well drilling operations.

Ask your supply store, or write for bulletin

"A Bear for Wear"

E. M. SMITH COMPANY
600-650 South Clarence Street, Los Angeles, California, U. S. A.
Export Office: Continental Emsco Company . . 30 Rockefeller Plaza . . New York City.
Sold in the Mid-Continent and Gulf Coast by: Continental Supply Company; T. T. Word Supply Company, Inc., Houston, Texas — In All Their Stores and Independent Pipe & Supply Co., 2311 West Street, Houston, Texas.

RODESSA TREND

Lafayette County wildcat tops massive Anhydrite

El Dorado, Ark.—Joe Modisett's Frost Lumber Company 1, SW SW 29-19-24, La Fayette County, Arkansas, which may be in the northeast "trend" from the Rodessa field, Caddo Parish, Louisiana, last week logged the top of anhydrite at 4924 feet and later was drilling in the same formation at 4950 feet, indicating the anhydrite is massive, and not the "stringer" anhydrite.

If this indentification is correct the test checked considerably high on this contact. Elevation is 261 feet. The operation logged Arkadelphia at 1653 feet. It is planned as a test for the oolitic lime horizon. Several companies and individuals have protection acreage in Modisett's 10,000-acre block.

Texas-Seaboard Oil Company's Bynum Cooperage Company 1, SE SW NW 34-17s-4w, was abandoned as a dry hole last week at total depth of 2465 feet, four feet in igneous rock.

NORTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH (Rodessa)—		
Ark. La. Gas Co., Rodessa O&L Co. 3, se se 22-23n-16w	2208	6000
Haynes Prod. Co., H. Otwell 2, sw sw 14-23n-16w	14,408	6012
CADDO PARISH (Pine Island)—		
The Leonard Co., Muslow G-3, 17-20n-15w	¶½	821
CLAIBORNE PARISH—		
J. H. Lester, Zollie Green 1, 18-21n-6w	*	3384
SABINE PARISH (Converse)—		
G. H. Collins, M. Cranford 4, 20-9n-13w	420	1663
Lee Whitehurst, Frost Lbr. Ind. 4, 20-9n-13w	428	2069

*Failures; †Junked; ¶Million cu. ft. gas.

GEOPHYSICAL WORK

Crews busy to border counties of East Texas

Shreveport.—A great amount of geophysical work is still being done in East Texas border counties by geophysical crews, especially in Cass and Marion Counties in the supposed "Rodessa trend."

Arkansas-Louisiana Gas Company's

seismograph crew was recently working near Haslam in Shelby County. Shell Petroleum Company had a similar crew working northeast of Jefferson in Marion County, and The Texas Company's crew is working east of Lodi. Gulf Refining Company's crew that was working northwest of the Rodessa field on the Texas-Louisiana line is now at work east of Jefferson, Marion County, and United Gas Public Service Company's seismic crew is working in the southeast part of Cass County, while Gulf Refining Company's shooting crew is southwest of Kildare in the same county. Superior Oil Company's crew is working in Marion County west of Jefferson.

Some trading still continues at the fringes of the Rodessa "trend." In Cass County, Texas, Phillips Petroleum Company continues buying acreage paying as much as $100 per acre. In Marion County the same company recently bought 1500 acres paying from $20 to $40 per acre.

ARKANSAS PERMITS

El Dorado, Ark.—Two drilling permits were issued last week by the Arkansas Board of Conservation. One of the permits, for Miller County, southwest Arkansas was the first definite location made in an effort to find the Rodessa pay horizon in that county. It was issued to Governor O. K. Allen and Lieutenant-Governor James A. Noe of Baton Rouge, Louisiana, and is for Embree Heirs 1, 300 feet north and west SEc SW SW 9-20-28. The other was in the Rainbow City district, Union County, and was issued to J. E. Crosbie, Incorporated, Smackover, Arkansas, for M. W. Sullivan 1, 200 feet north and west SEc SW NW 12-17-14.

ARKANSAS

Completions

Company, Well and Location		Init. Prod. Bbls.	Depth
ASHLEY COUNTY—			
Texas-Seaboard Oil Co., Bynum Cooperage 1, sw nw 34-17s-4w....	*		2465
MILLER COUNTY—			
C. W. Hays et al, State of Ark. 1, 31-15-25	*		3010
UNION COUNTY—			
Richardson & Proetz, Calion Lbr. Co. 1, nw se 10-16-14	*		3511
Lion O.R. Co., B. Graves 11, 3-16-15		35	2358

*Failures; †Junked; ¶Million cu. ft. gas.

MISSISSIPPI TESTS

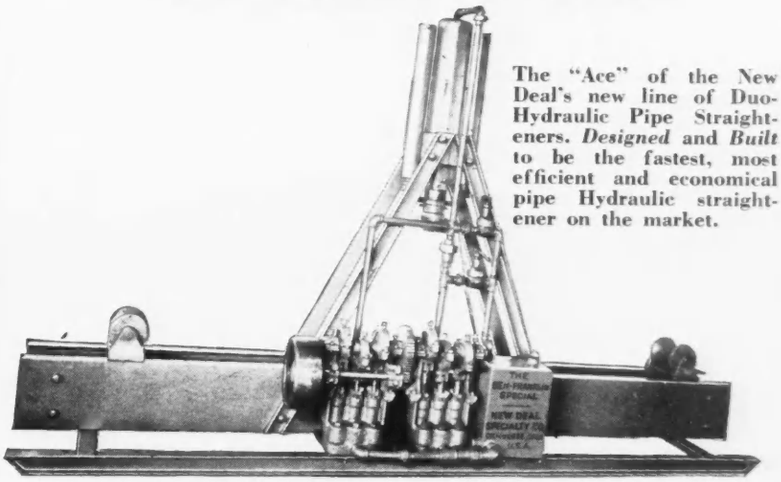
Jackson, Miss.—Two early wildcat tests in North Mississippi are indicated by assembly of recent blocks of acreage.

In Noxubee County, D. C. Shaffer and associates of Memphis, Tennessee, have assembled a 15,000-acre block and made location for Rosembaum 1, SWc 38-12-18e, which will go to 3500 feet or deeper.

In Tate, LaFayette and Panola Counties, Dr. R. D. Wilson of Dallas, Texas, and J. D. Wilson of Memphis, Tennessee, have assembled a 13,000-acre block for a reported 6000-foot test.

Announcing

THE NEW DEAL'S "BEN-FRANKLIN" SPECIAL DUO-HYDRAULIC PIPE STRAIGHTENER AND BENDING MACHINE



The "Ace" of the New Deal's new line of Duo-Hydraulic Pipe Straighteners. *Designed* and *Built* to be the fastest, most efficient and economical pipe Hydraulic straightener on the market.

4 MODELS 3 POWER UNITS 1 HAND OPERATED

THE "BEN-FRANKLIN SPECIAL" MODEL . . . Our Superior Model . . . the Peer of them all. Handling either lightest or heaviest weights; Maximum Capacity 8⅝" O.D., 36-lb. Seamless (Special attachments available for 10" pipe). High Speed, High Pressure or both. Powered with two Triplex pumps, one HI-SPEED and one HI-PRESSURE. Steel base, steel sled, carrying wheels and shoes to fit the pipe; 24" ram stroke. Three times as fast as present manual straighteners.

Write for complete information on The Ben-Franklin Special. Also Model "A", hand operated; Model "B" with Hi-Speed Pump and Model "C" with Hi-Pressure Pump. We build a machine for your particular requirements.

The NEW DEAL SPECIALTY CO., Inc.

P. O. BOX 1504 OKMULGEE, OKLA. Phone 2078, LD-14

HOUSTON
Cotton Exchange Building

EL PASO
First National Bank Building

F. G. MASQUELETTE & CO.

Certified Public Accountants

Federal Tax Counselors

AUDITS
INVESTIGATIONS
SYSTEMS
COST ACCOUNTING

Monument Widened

NEW WELLS DOUBLY IMPORTANT BY REASON OF NATURAL FLOW

WEEKLY STAFF REPORT

Hobbs, N. M.—Productive limits of the Monument field were broadened 1¼ miles to the southeast within the past week by two tests that proved capable of prolific natural flow. Heretofore treatment of the dolomite lime pay has been necessary to attain big production. Consequently the new wells give grounds for belief among operators that this latest major oil area for Lea County may assume top rank for the state.

The dual extension for the field was scored by Barnsdall Oil Company and the Jeffers Oil Company (R. H. Henderson et al). Barnsdall Oil Company's Alaska Cooper 1, C NE NE 12-20s-36e, contributed new territory in developing a natural flow of 110 barrels per hour through one-inch choke on tubing, and later gauged at the same rate on three quarter-inch choke, with gas volume estimated at 1,500,000 cubic feet daily. The well was drilled to 3890 feet, or 323 feet below sea level. First oil saturated lime was logged near the 3800-foot level.

Formation tester used in lime section at 3820-81 feet on Jeffers Oil Company's Britt-Conoco 1, C SE NW 7-20s-37e, developed a steady flow estimated at 2000 barrels oil and 2,000,000 cubic feet of gas daily. The hole is bottomed at a sub-sea depth of 327 feet. Operations were halted to cement 6⅝-inch casing with 160 sacks of cement at 3803 feet. The cement plugs will be drilled and the well completed at its present depth early this week.

The Britt outpost is located on a portion of a Federal permit assigned by Continental Oil Company and The California Company, joint owners, to Anderson-Prichard Oil Corporation, Oklahoma City, last spring, when the area was considered doubtful for production. The Oklahoma City concern entered into contract with the Jeffers Oil Company for the drilling of the test. Barnsdall Oil Company has moved in rig materials to drill Cooper 2 for a west offset to the Britt well.

Superior Oil Company's State 2-A, C NW NE 2-20s-36e, second location west of the discovery well of the Monument field, flowed 100 barrels oil per hour through open casing after treating lime with 10,000 gallons of acid. It was drilled to 3935 feet, or 332 feet below sea level. Later reports indicated that the well would be killed to install packer on tubing as a means of lowering the gas-oil ratio. The company has erected derrick to drill State 3-A, C SE NE 2-20s-36e, eventually leading to the drilling of a long list of progressive offsets, owing to the sub-division of lease ownership in the area. Sun Oil Company's W. B. Maveety 3, C SE NE 35-19s-36e, did not score natural flow after two acid treatments in lime at 3945 feet, and will likely be given a third injection. Gypsy Oil Company's Culp 2 and Republic Production Company's Maveety 1 installed tubing preparatory for a swabbing test late last week.

Responding to treatments of acid, aggregating 14,000 gallons of solution, an edge location on the west flank of the Hobbs field scored the highest potential earned by new wells in some months. Samedan Oil Corporation's State-Shell 4-C, near C SW 24-18s-37e, gauged 40 barrels oil hourly natural from porous lime at 4180-4218 feet, and after three injections of acid boosted its rated flow to 17,107 barrels along with 17,360,000 cubic feet of gas. The hole was drilled to a sub-sea depth of 540 feet, or in close proximity to the water table. Gravity of the oil was placed at 32.8 degrees, or several points lower than the average for the field. Proration quota of this new well was set at 193 barrels daily.

Tide Water Oil Company's State 1, SEc NE 14-18s-37e, northwest outpost for the Hobbs area, failed to produce when given swabbing test in the Bowers sand. It had previously proved dry after acid treatment in lime at 4368 feet, and was plugged back to 3867 feet to rely on the upper sand to attain oil production. Gypsy Oil Company's Steve Taylor 1, C SE NE 24-18s-38e, situated near the Texas border and 2¾ miles northeast of Hobbs, set casing to test Bowers sand zone at 3605-19 feet, but scored negative results, and was drilling below 4100 feet to try for production in the dolomite lime section.

An attempt to widen the productive limits of the Eunice field about three-quarters of a mile to the west is involved in the starting of operations on Shell Petroleum Corporation's State-Endura 1-C, C NE NE 24-21s-35e. A previous test on the company's Endura permit drilled early this year at C SE NE 12-21s-35e, afforded a 1½-mile extension to the west for the north portion of the field. The interval has since been cut in one-half. The semi-wildcat is producing about 35 barrels daily, but has not been offset by adjoining lease owners. Repollo Oil Company's State 3, NEc NW SE 19-21s-36e, failed to maintain a steady flow after treating lime zone at 3970 feet with 2000 gallons of acid solution, and is to be given a 3000-gallon injection.

Two-day swabbing test given Phillips Petroleum Company and Pure Oil Company's Woolworth 1, Group 4, CSE SW 8-25s-37e, a west offset to a small wildcat producer, failed to develop commercial production from the sandy-lime section. The hole is bottomed at 3425 feet, or 294 feet below sea level. A small amount of oil with drilling fluid was recorded in using formation tester at 3377-3425 feet. The partnership's Woolworth 1, Group 2, C NE NW 33-24s-37e, about 3½ miles east of the Cooper field, has been plugged back from 4200 to 3540 feet, having failed to show oil or gas in the lower line horizon. Trace of oil and gas developed with formation tester in lime at 3400-3529 feet is being relied upon to convert this wildcat into a producer.

Production quota of 61,000 barrels daily authorized for all areas in New Mexico by the State's Oil & Gas Conservation Commission for the November 1-15, inclusive, period afforded a minor increase for all prorated wells in the east portion of Lea County. Hobbs field was assigned

SPECIAL VALVES

When you need a special valve — come to Ludlow! Our 69 years' experience as manufacturers of gate valves for the oil and gas industry assures correct design and the type of service you want.

"The next time you need Valves—standard or special —write **LUDLOW"**

The LUDLOW VALVE MFG. CO.
TROY, NEW YORK

an allowable of 28,593 barrels, representing a 172-barrel gain for its 246 wells, or an average of 116 barrels daily. Other areas in this district are allotted a flat quota of 124 barrels daily each, or one barrel more per day than permitted the previous period. Wells not capable of exceeding the 124-barrel maximum are exempt from proration. Eastern Lea County areas have 513 wells, situated on 498 40-acre units, with an authorized production of 57,539 barrels daily. Several wildcats isolated from production and the Maljamar field, situated in the Artesia district, are not included in these figures.

Allowable production for Lea County, New Mexico, fields for the November 1-15, inclusive, period, with total wells and number of 40-acre units, follows:

Fields—	No. Wells	No. Units	Daily Allowable
Cooper	80	80	9,202
Eunice	102	102	12,319
Hobbs	246	232	28,593
Jal	53	52	4,314
Lea	11	11	1,173
Lea (North Extension)	2	2	69
Lynn	4	4	98
Monument	14	14	1,736
Wildcats	1	1	35
Total	513	498	57,539

MOUNTAIN STATES

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
NEW MEXICO		
LEA COUNTY (Eunice Field)—		
Repollo Oil Co., E. C. Adkins 4, nwc nw ne 9-21s-36e	800	3900
LEA COUNTY (Hobbs Field)—		
Samedan Oil Corp., State-Shell 4-C, c sw 24-18s-37e	¶17-17,107	4218
LEA COUNTY (Monument Field)—		
Barnsdall Oil Co., A. Cooper 1, c ne ne 12-20s-36e	5000	3890
Superior Oil Co., State 2-A, c nw ne 2-20s-36e	2400	3935
MONTANA		
TOOLE COUNTY—		
(Kevin-Sunburst Field)—		
Coolidge & Coolidge, O'Haire 3, nw ne se 35-36n-2w	20	1763
A. E. Crumley, Shaw 7, ne ne ne 35-36n-2w	80	1565
Big West Oil Co., Engle 1, cne se 2-35n-3w	*	1940
Ohio Oil Co., Sindon 2, nw nw 1-35n-2w	*	1667
GLACIER COUNTY (Cut Bank Field)—		
Texas Co., Mable Morrison 5, nw ne nw 22-35n-6w	316	2943
Emma C. Peterson 1, cw½ 23-36n-5w	*	2973
C. P. Castle, State 3, cnw sw 36-36n-6w	105	2900
R. C. Tarrant, Britton 5, cnw sw 12-34n-6w	440	2825
Montana Power Gas Co., Neumuth Unit 1, nw 29-35n-5w	¶2½	2675
Montana Headlight Co., Allison 1, cse se 20-34n-6w	*	3135
WYOMING		
BIG HORN COUNTY		
(Byron Field)—		
Ohio Oil Co., Byron-Union 3, se nw 25-56n-97w	350	5750
COLORADO		
MOFFAT COUNTY (Hiawatha Field)—		
Mountain Fuel Supply Co., Georgia Kuykendall 1, ne se 22-12n-100w	140	....

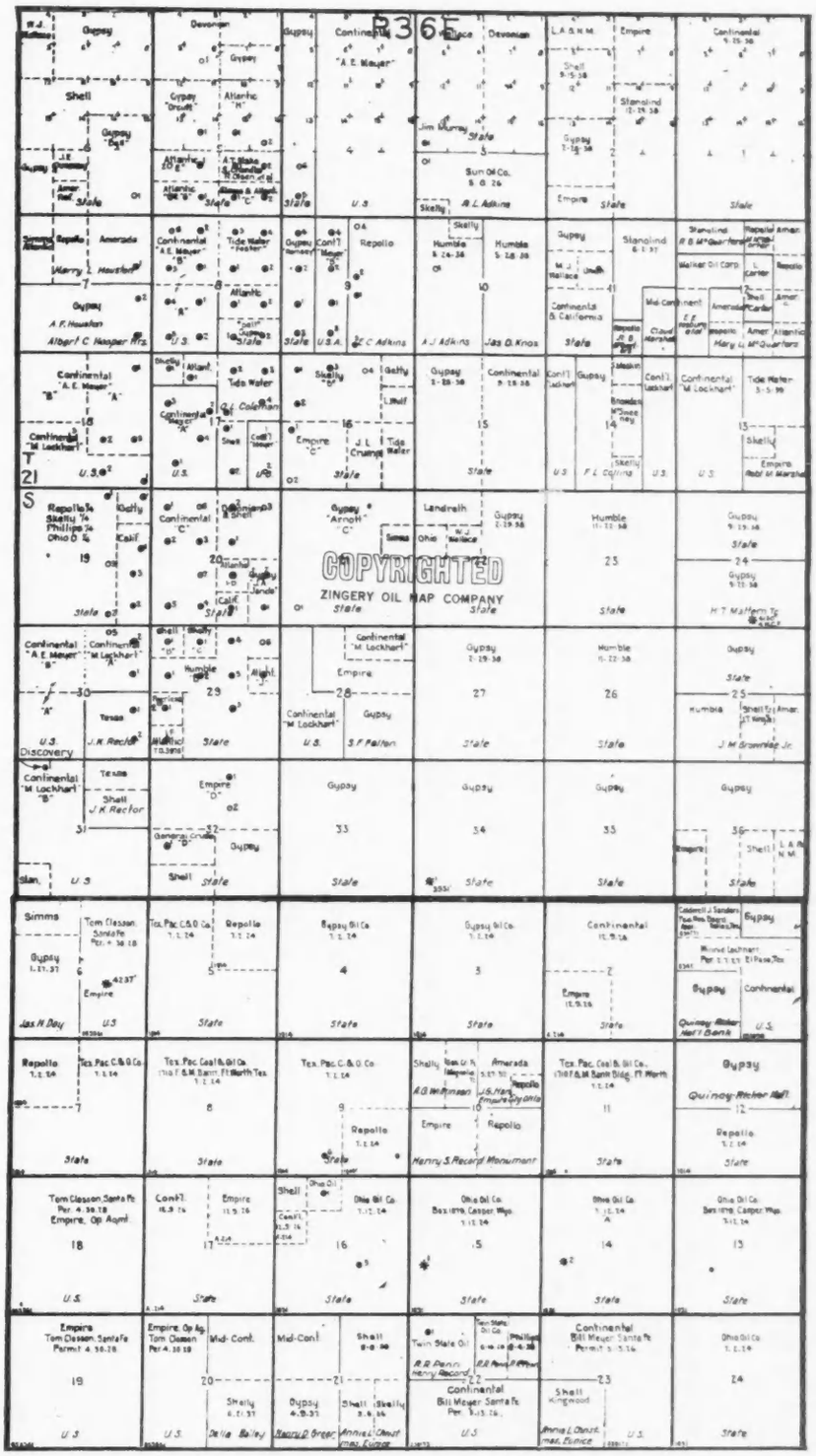
*Failures; †Junked; ¶Million cu. ft. gas.

Great Falls, Mont.—With the coming of winter, drilling activity in the Kevin-Sunburst field and Cut Bank showed considerable less development. Only one completion was recorded this week for the Cut Bank field, Glacier County, while seven wells shut down out of 28 operations and no new locations were staked.

The Texas Company's Morrison 5, NW 22-35n-6w, completed for 316 barrels daily at total depth of 2943 feet.

Drilling operations in the Kevin-Sunburst field, Toole County, were virtually at a standstill this week when eleven wells out of sixteen were shut down, and the Monopeg Oil and Gas Company capped its Dipple 3, S SW NW Section 28-35n-1w, for a gas well at 1335 feet.

One new location was released in the field, A. E. Crumley is rigging up his Shaw 8, SE NW SE 35-36n-2w. The Ohio Oil Company's Reeg 8, NW NW SW 14-35n-2w, a first report last week, is moving in material.



Map of the Eunice Field, Lea County, New Mexico, showing developments to date.

DON'T GAMBLE

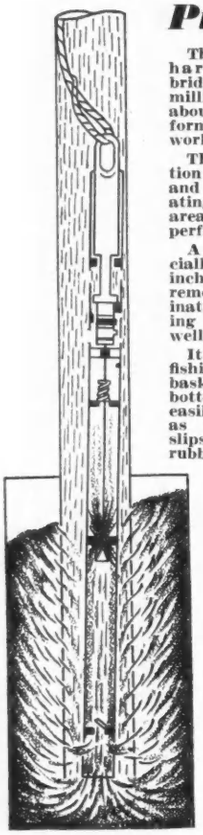
the vast sums of money invested in producing oil sands against the nominal cost of cleaning out efficiently.

USE THE

CAVINS

3 TOOLS IN ONE

TO KEEP WELLS PRODUCING *Profitably*



The Cavins breaks the hardest packed sand bridges, removing sand, millings and cuttings in about one-third the time formerly required for this work.

The Cavins raises production by removing all loose and packed sand and creating a larger drainage area, and by cleaning the perforations thoroughly.

A model designed especially to run inside of 2½-inch upset tubing easily removes sand bridges, eliminating the hazard of killing and pulling flowing wells.

It is unequalled as a fishing tool. With a junk basket or trap attached to bottom The Cavins will easily recover such articles as cones, rollers, discs, slips, and pieces of iron, rubber, rope and wood.

The Cavins cleans out sand around and inside the "fish" permitting a socket or suitable fishing tool to get hold of it.

Write for illustrated bulletin containing detailed description of The Cavins . . . the most valuable protection for producing wells.

THE CAVINS COMPANY

Cable Address: "Cavins, Long Beach"
Foreign Representative: R. J. Eiche

Long Beach, Calif., 2853 Cherry Ave. . Phone 414-14
Bakersfield, Calif., 3800 Chester Ave. . Phone 1779-J
Taft, Calif., 200 Center St. . . . . Phone 78
Goleta, Calif. . . . . Phone 8213
Santa Paula, Calif. . . . . Phone 234
Houston, Texas . . . . . Phone Wayside 1451
Kilgore, Texas . . . . . Phone 753
Pampa, Texas . . . . . Phone 1220
Oklahoma City, Okla. . . . . Phone 3-6441
Wichita, Kansas . . . . . Phone 45-449
Lyons, Kansas . . . . . Phone 227

Wildcat Failures

ABANDON TWO CALIFORNIA WELLS; OTHERS TESTING

WEEKLY STAFF REPORT

Los Angeles.—Two of the most important wildcat tests drilled recently in the southern portion of the San Joaquin Valley, were acknowledged failures last week and are being abandoned.

General Petroleum Corporation's Mattson 1, located in Section 1-32s-29e, about 10 miles southeast of the Mountain View field, Kern County, was carried to 8847 feet, bottomed in a silty slate member of the Schist, which was topped at 8821 feet. This test was a complete failure, the only showings of any kind encountered being a few thin streaks of poor oil sand near bottom, which were not considered worth testing. However, in drilling to the Schist any future question as to possibility of deeper production is unequivocally answered.

Shell Oil Company also is abandoning the lower portion of its B.V.A. 1, located on the southerly edge of the old Buena Vista Lake bed, about three miles east of the Midway-Sunset field, Kern County. This well was carried down to 9453 feet, bottomed in claystone. Operators plan to plug back and test by stages on the way out. However, it is understood that very few oil showings were penetrated in this test and about all that can be hoped for will be a small amount of gas production.

Northern Counties Petroleum Company's Ewers-Mooney 1, wildcat project located in Section 25-24-3, in the Corning district Tehama County, deep test of the Sacramento Valley region, tested wet on the fourth recement job on the nine-inch casing at 4904 feet and is now standing recemented for the fifth time. Depth is 5032 feet and the water is believed to be coming in from around the casing shoe, from a zone penetrated between 4390 and 4608 feet. Considerable gas has been in evidence in most of the formations near bottom. When shut in for a short time, gas pressures rise to 950 pounds.

Viking Oil Company's Wagner 1, located in the old Richfield field, about 20 miles southeast of Los Angeles, failed to show anything worth while on pumping test last week. Depth is 4721 feet, with 6⅝-inch casing cemented at 4528 feet. On the test, considerable water and a scum of oil was obtained, and rods and tubing are now being pulled, preparatory to cleaning out and working on the well further. This is one of the older Los Angeles Basin fields and, in view of the badly depleted sands, most operators feel that chances for sizeable production from the known zones are very remote.

Bolsa Chica Oil Corporation plans to carry Snow 1-A, semi-wildcat test of the Piru district, Ventura County, in Section 4-4n-18w, a little deeper. This well was first placed on production in August, 1934, from a depth of 2544 feet, and made an initial production of 110 barrels per day of 24.0 gravity oil, cutting 3.0 percent water. Since that time the oil flow has decreased gradually and the water cut has increased steadily until fluid was mostly water, hence the decision to deepen. Bottom of the well is now at 2612 feet, in hard shale and oil sand, and it is expected that a production test will be made before going much further.

Ventura Exploration Company is preparing to make a production test of Sexton 1, deep test on the extreme easterly end of the Ventura Avenue field, Ventura County, in Section 30-3n-22w. Depth of Sexton 1 is 7068 feet, with 8⅝-inch casing cemented on bottom. In cementing this casing, 1400 sacks of cement were used, the cement being forced back of the pipe up to about 3000 feet.

Operators plan to clean out within a few feet of bottom, test water shut-off, and then use a shot perforator for testing back by stages. There are eight zines to be perforated, the first of which will be from 6460 to 6660 feet, where an aggregate of 182 feet of sand was penetrated.

Shell Oil Company is building rig for

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LONG BEACH—		
Shell, Babb and Tucker 8	195	4575
Virginia Dare Oil Co., No. 1	125	5650
DOMINGUEZ—		
Shell, Reyes 68	635	4540
MONTEBELLO—		
Standard, Baldwin 78	660	3835
VENICE—		
Union, Vidor 13	795	6071
KETTLEMAN HILLS—		
Kettleman No. Dome Assn. No. 23-28J	760	7858
FRUITVALE—		
Western, Dawyer-Reid 1	300	3520
KERN FRONT—		
C. C. M. O. Oil Co. No. 49	175	2090
MOUNT POSO—		
Baker-Grover Co., Baker 1	150	1730
Texas Co., Vedder 9	385	1811
SEMITROPIC—		
Standard, P. F. Co. 1	¶12.5	3215
P. F. Co. 2	¶14	3051
TRICO—		
Standard, Bolz 1	¶14.3	2466

*Failures; †Junked; ¶Million cu. ft. gas.

Amebco 1, a wildcat test to be drilled about one half mile to the west of the Cerritos Heights extension of Long Beach field, in Section 13-4s-13w, Los Angeles County. Numerous tests have been drilled between this location and the Long Beach field, precluding all possibility of connection with that field, at least for the upper and intermediate zones, so it is thought that Shell's objective will be for production from a separate structure.

The Texas Company is now drilling its third core hole on the large block of acreage under lease in the Eureka district, Humboldt County, on the coast of Northern California. These core holes are being drilled to approximately 1000 feet and the third one, Sand Spit 1, is being cored ahead at 790 feet. This is on the same acreage where The Texas Company's Eureka 1 was drilled a few months ago to a depth of 6133 feet, plugged to 5850 feet, and which well is now standing idle while additional geological information is obtained by drilling these core holes.

TRACY GAS TEST

Los Angeles.—Amerada Petroleum Corporation is preparing to drill its fourth well in the Tracy Gas field, San Joaquin County, which is located about 35 miles east of the San Francisco Bay region.

The new project, Amerada's Tracy 11-23, will be drilled in the northwest corner of Section 23-2-5, and is about one-half mile due east from where Amerada brought in its Tracy 31-22 on October 24, 1935, for an initial production of 33,800,000 cubic feet per day from a plugged depth of 4060 feet.

SECOND OJAI TEST

Los Angeles.—Continental Oil Company is grading roads to location for a second test of the Ojai district, about 10 miles northeast of the Ventura Avenue field, Ventura County.

Location for this new test, Pirie 2, will be in Section 12-4n-23w, on the same property where Pirie 1 was drilled about a year ago to a depth of 2241 feet and obtained a gross production of 200 barrels per day of fluid, cutting approximately 85 percent water.

GOOD PRODUCER

Completed in extension of East Montebello

Los Angeles.—Universal Consolidated Oil Company's Estrada 1, located on the East Montebello extension, about 10 miles east of Los Angeles, was brought in as a good producer.

Initial production was 1600 barrels per day of 38.2 gravity oil, cutting 1.1 percent mud and water, and 2,000,000 cubic feet of gas. Flow was through one 44/64-inch bean, with 375 pounds tubing pressure and 1000 pounds casing pressure.

This well is bottomed at 5608 feet, water shut-off being with nine-inch casing cemented at 5550 feet.

Estrada 1 is located only about 1000 feet southeast from Universal's discovery well, "N" 2, and its successful completion throws very little additional light on surrounding acreage, since it was within the limits of the proven territory.

Proration Off

MICHIGAN CRUDE DEMAND CROWDS FIELDS' CAPACITY

WEEKLY STAFF REPORT

Mt. Pleasant.—Michigan crude oil production, at its highest peak in the state's history, is within 10,000 barrels of the potential established on November 1 by the Michigan Producer's Committee. As a result of increased market demand, resulting largely from local independent refinery expansion and new markets in the Toledo, Ohio, refining area, proration is more or less a thing of the past in Michigan.

The committee reported daily runs for the week ending November 2 as averaging 55,654 barrels, against an estimated state potential of 64,951 barrels. About 35 to 40 percent of the crude is marketed in the state and the bulk in Toledo.

Figures released November 3 by the committee also show the potential of the Crystal-Ferris field (Montcalm County), to have increased from October 1 to November 1 from 29,852 to 33,442 barrels daily with the number of commercial wells for the same period jumping from 48 to 65. This indicates that the present rate of drilling is more than maintaining the decline of older wells.

However, actually the new drilling is barely meeting the field decline as one of the 17 completions for the month added 5500 barrels new potential to indicate that unless extensions are opened the field has reached its peak and will be in a stage of settled production within three months or less.

Figures will not be compiled until November 15 on the total production for October, but based on daily run estimates for the month about 1,600,000 barrels were produced.

MONTCALM COUNTY

Mt. Pleasant.—Producing through eight-inch casing at a depth of 1253 feet, Michigan Exploration Company's Richardson 1, 12n-7w-3, Montcalm County, gauged 35,300,000 cubic feet open gas flow to set a new Michigan record. The flow was 18 million feet higher than any other previously gauged gas well in the Belvedire-Millbrook field and topped the old state record by better than a million feet, set two years ago in Austin township of Mecosta County.

On November 5 after flowing open 50 hours, the gas flow was killed by cementing off the producing sand.

Richardson 1 will be deepened to the Dundee lime for an oil test as originally planned despite the record gas flow in the Michigan Stray.

The test is expected to play an important part in the future of the new gas field in view of the fact that it showed 32 feet of pay sand with a continuous increase in pay. It marked the first test in the field to be drilled more than 22 feet into the pay.

Estimates on reserves of the new fields have been generally figured on a pay sand of from six to 10 feet. Recovery has been estimated from five to seven million feet per acre but if subsequent tests show from 20 to 30 feet of pay over a large area new surveys probably will be made and may result in boosting the estimated recovery to 10 to 14 million per acre.

Reserves of the field have and are

MICHIGAN
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
GENESEE COUNTY—		
Smith Pet. Co., Torrey 1, 9n-8e, nw nw ne-5	*	1533
GRATIOT COUNTY—		
Crystal Oil Co., Shaver 1, 10n-4w, c nw ne-4	†3½	1000
St. Louis Pipe & Supply, Mutual 1, 12n-4w, ne ne sw-25	*	3440
MECOSTA COUNTY—		
Stewart-Atha, Cogswell 1, 13n-7w, c nw ne-32	¶10	1293
MONTCALM COUNTY—		
Snowden & McSweeney, Wight 4, 10n-5w, nw ne ne-10	50	3195
Strange & Fortney, Fisher 1, 10n-5w, nw nw nw-2	400	3190
MIDLAND COUNTY—		
W. H. Atha, Miller 1, 13n-1e, c n½ ne se-28	*	3360
SAGINAW COUNTY—		
Smith Pet. Co., Gray-Ackerman 1, 10n-6e, nw ne se-20	10	1555

*Failures; †Junked; ¶Million cu. ft. gas.

now playing an important part in a controversy between pipe line companies and cities bidding for the gas in the field. Both Consumers Power Company and the new Western Michigan Pipe Line Company have applications before the utilities commission to take gas from the field. Consumers would build a line to Lansing where there is an estimated 10 million daily market and Western Michigan would build to Grand Rapids where there is a 20 to 30 million daily market. The commission is debating whether reserves warrant one or both markets.

BUILD REFINERY

Saginaw, Mich.—W. J. Sovereign announced plans here for the construction of a 1500-barrel topping plant November 5, filing an application with the city commission for permission to build the plant.

OREGON TEST

Los Angeles.—Two efforts are being made to develop production in Oregon on the Pacific Coast, according to R. W. Sears, of The Dalles, Oregon.

Near Clarno, Oregon, Clarno Basin Oil Company is drilling a well 15 miles from Antelope and 105 miles from The Dalles, Oregon. The well was spudded in 1926 and has been drilled intermittently since then, having attained at present a depth of 4015 feet.

Mr. Sears writes: "We have gone through 1000 feet of black shale, about 500 feet of sticky shale interspersed with lenses of black shale, and are now in gray sandy shale at 4115 feet. We have undoubtedly been through several lenses of sand also. At 2870 feet we had our first gas show, wet gas, according to analysis.

"At 3500 feet a 20-minute pressure reading on the speed gauge, which was used in lieu of a regular oil well pressure gauge, showed 240 pounds pressure. At present the ditch is covered with oil constantly from overflow to pit.

"Three miles from Mitchel, Oregon, the Northwest Petroleum Corporation is drilling a wildcat well which is at present fishing at 1274 feet. This well has encountered traces of oil and some fair gas showings."

EASTERN STATES

EASTERN FIELDS — WEEKLY STAFF REPORT

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
KENTUCKY		
OHIO COUNTY—		
Lowe & Co., Legron 1	*	....
Teller & Co., Whitehouse 5	25	....
Sunflower Oil Co., Jones 8	85	....
Marietta Oil Co., Escridge 2	4	....
Egg Oil Co., Brown 1	*	....
OHIO		
ASHLAND COUNTY—		
Hulse & Tedlow, Landid 1	*	....
ATHENS COUNTY—		
Gross & Frebault, Lewis 2	2	....
Castle Farm O&G Co., West 1	*	....
Lima Gas Corp., Wolson 3	*	1524
Ohio FG Co., Chappel 1	¶	1554
FAIRFIELD COUNTY—		
Bishop & Patton, Schaeffer 1	*	2050
City Nat. Gas, Conrad 3	¶	....
Jourdan 2	¶	2336
GUERNSEY COUNTY—		
Paul Bell & Co., Spaid 2	¶	1033
Roy Hammond, Secrest 1	*	1184
HOLMES COUNTY—		
Lydic O&G Co., Allinson 1	¶	817
LICKING COUNTY—		
E. H. Everett, Montgomery 8	60	....
Werhle Gas Co., Shaw 1	¶	2396
MEDINA COUNTY—		
Ohio FG Co., Grim 1	*	3136
Stoddard 1	20	....
Schwam 1	*	3244
Preston Oil Co., Grigsby 20	15	....
MEIGS COUNTY—		
C. F. Wixon, Ash 1	¶	430
Houston & Co., Circle 1	¶	1979
Rutland Gas Co., Caffney 1	*	914
Ohio FG Co., Story 5	5	1679
Hart 1	¶	1020
MONROE COUNTY—		
Lewis & Co., Gates 6	¶	224
Gordon Green & Co., Leasure 3	¶	1010
Hines Brothers, Hines 7	2	792
S. E. Cline, Frank Lyons 1	*	3190
NOBLE COUNTY—		
R. L. Smithberger, Noll 2	*	....
Parks 1	¶	860
I.A.&F.W. Rich, Segrest & King 1	1	1361
E. F. McGinnis & Co., Bond 1	¶	195
PERRY COUNTY—		
Ohio FG Co., Grant 1	¶	....
SENECA COUNTY—		
Industrial Gas Co., Hoover 2	¶	480
STARK COUNTY—		
Obermiller & Co., Rose 1	¶	4516
Chas. C. Weirough, Dewalt & Loudenn 1	*	778
E. Ohio Gas Co., Smith 1	¶	4567
Whetstone 1	¶	4223
TUSCARAWAS COUNTY—		
Frey & Co., Lebold 1	¶	4793
Capital Drlg. Co., Asher 6	¶	....
VINTON COUNTY—		
Kelch O&G Co., Peters 1	2	....
WASHINGTON COUNTY—		
Wm. Kinsey, Montgomery 4	*	307
Dupuy Bros., Eddy 2	¶	2129
Gale & Gale, Gale 3	3	430
King Oil Co., King 2	3	1162
Speary O&G Co., Leyde 4	*	1828
Anderson & Co., Vickers 3	*	....
H. D. Freeland & Co., McCarty 1	*	3110
W. S. Harris, Knox 2	¶	....
McTaggart, Hartman-Woodruff 1	*	....
E. H. & J. B. Tague, McClain 1	4	....
WYANDOT COUNTY—		
Murphy & Co., Criswell 4	*	1465
Perkins & Co., Bowman 1	*	1483
PENNSYLVANIA		
BEAVER COUNTY—		
John Haley & Co., Graham 1	¶	4545
ALLEGHANEY COUNTY—		
R. W. Dixon & Co., Breslin 1	*	....
WASHINGTON COUNTY—		
Froman, Nuss & Co., Buchannan 2	¶	1410
Winfield McCarty, Freeland 1	*	3110
BOONE COUNTY—		
Pure, Federal Coal 76	¶	3053
CABELL COUNTY—		
Merritts Cr. Gas Co., Monel 1	¶	2882
R. H. Adkins & Co., Felure 1	¶	3675
Pridemore Gas Co., Ross 1	¶	3343
W. C. Kingery & Co., Pratt 2	¶	1314
CALHOUN COUNTY—		
Southeastern Gas Co., Little 1	¶	2172
F. F. McIntosh, Stump 3	32	2687
CLAY COUNTY—		
Elk River Gas Co., Neal 1	¶	2250
GILMER COUNTY—		
McCall Drlg. Co., Hardman 1	10	....
D. L. Moody 2	*	2650
HANCOCK COUNTY—		
Hewitt Bros., Braden 20	5	....
KANAWHA COUNTY—		
United FG Co., Casey 4568	¶	1679
MARSHALL COUNTY—		
Cameron H&L Co., Davis 4	¶	2141
RITCHIE COUNTY—		
W. H. Bickle, Holt 1	¶	1555
ROANE COUNTY—		
Litton O&G Co., Dye 1	¶	1776
Jackson & Bowers, Sarver 2	*	1800
WETZEL COUNTY—		
Blank O&G Co., Garrett 1	5	2919
WOOD COUNTY—		
Waldschmidt Oil Co., Roberts & Pepper 2	4	1735

*Failures; †Junked; ¶Million cu. ft. gas.

PROTEST LINE

Mt. Pleasant.—Opposition to the new Michigan-Toledo Pipe Line Company's 140-mile eight-inch line from Crystal field to Toledo, Ohio, developed October 29, when the company applied for a permit from the Michigan Public Utilities Commission.

Representatives of a number of small local refineries protested granting of the permit for the line on grounds that the line would jeopardize the crude supply for small state refineries. The commission granted a 10-day extension of the hearing for the filing of briefs.

The 140-mile line is already under construction both from Toledo and from Crystal by Franklin Tool Company, with about 50 miles laid and right of way for virtually the entire route taken. Completion is scheduled by December 15.

The line is a joint venture by Simrall Pipe Line Corporation of Mt. Pleasant and Standard Oil Company of Ohio, each reported to control 50 percent of the Michigan-Toledo Pipe Line Company stock.

Specify CURTIN CENTRIFUGES

FOR QUICK, ACCURATE TESTS

Designed to meet all **A.S.T.M. Standard Method D-96-35** and **A.P.I. Code No. 25** requirements. Ruggedly built, simple in design and needs no special care. Gear ratio and throw of the crank designed to produce the required speed with the least effort consistent with good mechanical construction.

Ask for your copy of this folder carrying full details and prices. →

MANUFACTURED BY

No. 3420 W. H. CURTIN & COMPANY, INC.

HOUSTON, TEXAS

THE OIL WEEKLY REPORT ON IMPORTANT

Wildcat Tests

CALIFORNIA

KERN COUNTY

ARVIN—General's Mattson 1, 1-32-29, td 8847 ft, slaty schist 8821 ft, to abn.

BELRIDGE—Albert Beck's Beck-Bacon 1, 35-28-20, spd.

BUENA VISTA LAKE—Ohio's K.C.L.A.-3, 31-31-26, dr sand and shale 5207 ft. Shell's B.V.A. 1, 9-32-25, td 9453 ft, to test by stages.

CALIENTE CREEK—Caliente Oil Co.'s No. 2, 31-29-30, lcn. O&H Oil Co.'s O&H 1-A, 32-30-30, wocs 6⅝-in at 650 ft, td 684 ft.

DEVIL'S DEN—Cumberland Oil Co.'s Cumberland 2, 17-26-18, dr shale 3430 ft.

EDISON—Bauer Oil Co.'s Bauer 1, 21-30-29, td 4554 ft, plug 2972 ft, sd. Navy Oil Co.'s Caravel 1, 19-30-30, to deepen from 1035 ft with portable rig.

GRAPEVINE—Silver Gate Co.'s Tejon 1, 7-10-19, dr shale streaks gray sand 2976 ft.

LOST HILLS—Standard's United 1, 2-26-20, td 5816 ft, wocs 9⅝-in at 5766 ft.

McDONALD ANTICLINE—R. E. Bering's Maylan 2, 12-28-19, dr sand and shale 820 ft.

McFARLAND—John H. Webb's Alta 1, 16-26-26, sd 2486 ft.

SAN EMIDIO—Ohio's KCL C-11-49, 11-11-12, dr sandy shale 6066 ft.

SO. BUTTONWILLOW—Doyle Pet. Corp.'s No. 1, 5-30-24, sd 5452 ft.

SO. ROUND MOUNTAIN—Standard's M&T 1, 3-29-29, dr hard sand streaks conglomerate 2112 ft.

MISCELLANEOUS

KINGS COUNTY — Milham Explor. Co.'s WTL Co. 1, 5-22-19, wocs 16-in at 1800 ft, bottom.

MADERA COUNTY—Pure's Chowchilla 2, 8-10-14, td 2690 ft, test at about 2400 ft showed for 1,200,000 cu. ft. gas.

SAN JOAQUIN COUNTY—Amerada's FDL 1, 15-2-5, dr hard shale 8812 ft; Tracy 11-23, 23-2-5, grading lcn.

TEHAMA COUNTY — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, td 5032 ft, wocs 9-in at 4904 ft, fifth recementing job.

TULARE COUNTY—Geo. Clarke's May 1, 31-23-28, dr hard black slaty schist 1205 ft, 3 ft os 1170-1173 ft.

MONTEREY COUNTY—Shell's Branch 1, 34-24-10, dr brown and black shale 5959 ft.

SANTA BARBARA COUNTY

CARPENTERIA—Santa Barbara O&G Co.'s Bryce 1, 29-4-25, dr gray sand 253 ft.

GOLETA—Shell's Hollister 2, 10-4-29, dr red shale and sand 3163 ft.

LOMPOC—M. J. Freeman's La Brea 1, 11-7-33, testing 1450 ft.

SANTA MARIA — O. C. Fields Gasoline Corp.'s No. 1, 28-10-33, dr hard shale 1524 ft.

SUMMERLAND—Marmonte Oil Co.'s No. 1, 16-4-26, dr gray shale 924 ft.

VENTURA COUNTY

BARDSDALE—Duke Oil Co.'s No. 1, 7-3-19, bldg roads. El Rancho Oil Co.'s Elkins 1, 9-3-19, td 1083 ft co. Union's Dryden 10, 12-3-20, dr sand and shale 5162 ft.

FILLMORE—Texas Co.'s Unit Plan 2-1, 20-4-19, dr sand and shale 5211 ft.

OJAI — Continental's Pirie 2, 12-4-23, bldg roads.

OXNARD—General's McGrath 1, 26-2-23, td 7625 ft, plug 5775 ft, to redr.

PADRE CANYON—Continental's Hobson 1, 15-3-24, rig.

PIRU—Bolsa Chica Oil Corp.'s Snow 1-A, 4-4-18, dr os and shale 2615 ft.

SHIELLS CANYON — Bankline Oil Co.'s Calumet B-1, 3-3-19, wocs 8⅝-in at 3553 ft, td 3634 ft.

SIMI—Jas. S. Hull's No. 1, 2-2-18, dr clay and sand streaks 1124 ft. Paloma Oil Co.'s Paloma-Marr 1, 12-2-18, wocs 6⅝-in at 2640 ft, td 2740 ft.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, wocs 8⅝-in at 7068 ft, bottom, and to perforate and test by stages, first test at 6460-6660 ft.

SOUTHERN CALIFORNIA

BREA CANYON—Pressel-Perry-Tull's Baird 1, 30-2-9, sd 4535 ft.

CARBON CANYON — Tehama Pet. Corp.'s Kramer 1, 33-2-8, td 3053 ft, 7-in at 3050 ft, to test by stages.

EAST MONTEBELLO—Wilshire Annex Oil Co.'s Baldwin C-1, 11-2-11, dr sand and shale 3281 ft.

EL SEGUNDO—Larco Oil Co.'s Van 1, 12-3-15, td 7600 ft, redr at 7448 ft.

KRAEMER—Ted Cook's No. 1, 25-3-9, rebldg rig. Leaseholders Dev. Co.'s Vejar 1, 26-3-9, td 4056 ft, rig blew down. Standard Oil Co.'s Yorba Com. 1, 36-3-9, dr 2242 ft, no showings.

LAWNDALE — Sovereign Oil Corp.'s Ben Long 1, 22-3-14, dr sand and shale 6710 ft.

NEWHALL—Yant Pet. Corp.'s No. 5, 1-3-16, lcn.

PICO—Frontier Oil Co.'s No. 1, 12-2-12, sd 5246 ft.

PICO CANYON—N. M. Frazer's No. 1, 31-4-16, td 825 ft, dropping casing into hole.

PUENTE—North American Oil Consolidated's Smith 3-1, 30-1-19, dr hard sandy shale streaks conglomerate 4180 ft.

SANTA ANA—Continental's Santa Ana Com. 1, 14-5-10, dr sand 4202 ft.

SAUGUS — International Oil Developers' Powell 2, 34-5-16, dr hard shale 1193 ft.

TORRANCE—Eyers Pet. Corp.'s No. 1, 20-4-13, td 702 ft, to set casing. Pioneer Holding Co.'s Pioneer 1, 33-3-14, dr sticky shale 2991 ft.

WEST LONG BEACH—Shell's Amebco 1, 13-4-13, rur.

SAN BERNARDINO COUNTY—Equitable Pet. Explor. Co.'s No. 1, 11-10-5, sd 1940 ft. Hellman Long's Pellissier 1, 2-3-8, sd 2418 ft.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*
‡—*salt water (completions).*
†—*junked and abandoned.*
¶—*million feet of gas.*
abd—*abandoned.*
bbls—*barrels.*
br—*building rig.*
b.s.—*basic sediment.*
csg—*casing.*
co—*cleaning out.*
dd—*drilling deeper.*
dk—*derrick.*
dr—*drilling.*
fsg.—*fishing.*
ft—*feet.*
hfw—*hole full of water.*
in—*inches.*
lcn—*location.*
m—*milling.*
mim—*moving in materials.*
mit—*moving in tools.*
mot—*milling on tools.*
n, s, e, w—*north, south, east, west.*
oih—*oil in hole.*
owdd—*old well drilling deeper.*
owpb—*old well plugging back.*
pb—*plugged back or plugging back.*
r—*reaming.*
rog—*rig on the ground.*
rur—*rigging up rotary tools.*
rust—*rigging up standard tools.*
sd—*shut down.*
sdtr—*sidetracking.*
sg—*show gas.*
si—*shut in.*
so—*show oil.*
so & g—*show oil and gas.*
spd—*spudding.*
sr—*straight reaming.*
sw—*salt water.*
td—*total depth.*
ur—*underreaming.*
wih—*water in the hole.*
wo—*workover.*
wocs—*waiting on cement to set.*
wosr—*waiting on standard rig.*

KANSAS

BARTON COUNTY—Torrey & Feaster et al's Feist 1, ne ne se 29-18s-11w, sd 3433 ft. Lario et al's Peter 1, nw nw nw 24-20s-11w, 1000 gals acid, pumped 220 bbls oil 4½ hrs. Lario et al's Smith 1, sw nw nw 26-18s-13w, dr 225 ft. Price et al's Ehrlich 1, nw nw se 10-16s-13w, td 3375 ft, D&A. Murphy & Morgan's Robinson 1, ne ne sw 21-16s-14w, cellar and ponds. Witt et al's Murry 1, nw nw sw 14-17s-14w, dr 150 ft.

BUTLER COUNTY—Western Kansas Prod. & Ref. Co.'s King & Marshall 1, nw nw sw 11-28s-6e, sd 3051 ft. Mohawk Oil Co.'s Overstreet 1, nw nw nw 19-26s-8e, td 5867 ft, pumped 100 bbls oil, comp. Palmer et al's Ellis 1, ne ne ne 7-25s-4e, td 2751 ft, D&A.

COWLEY COUNTY—Wakefield et al's Auman 1, se se ne 32-33s-3e, pumped 15 bbls oil 8 hrs. Winkler-Koch et al's Harlan 1-B, cnw ne 13-31s-7e, sd 1400 ft. Earl Wakefield's Hanna 1, ne ne sw 2-31s-4e, dr 2355 ft. Shawver et al's Hanna 1, ne nw se 29-30s-3e, dr 3078 ft. Johnson's Ferguson 1, nw sw se 17-30s-8e, ur 8-in csg 2050 ft. Penwest's Clover 1, ne se se 8-31s-7e, cellar and ponds. Roth & Farrout's Guthrie 1, se ne nw 30-33s-8e, cellar. Roth & Farrout's Sherwood 1, ne nw sw 11-31s-4e, br.

DICKINSON COUNTY—Dutch Oil Co.'s Phillips 1, cne nw 15-15s-1e, dr 3370 ft.

ELLIS COUNTY—Helmerich & Payne et al's Kuhn 1, nw sw ne 16-13s-20w, td 3900 ft, mir. Twin Drlg. Co.'s Goetz 1, sw sw se 3-14s-17w, dr 715 ft.

ELLSWORTH COUNTY—Gypsy Oil Co. & Texas Co.'s Lapham 1, sw sw sw 27-16s-7w, dr 2950 ft. Tom Palmer's Splitter 1, nw ne se 17-17s-8w, dr 2850 ft. Slick, Pryor & Lockhart et al's Sturn 1, nw nw sw 26-17s-10w, dr 525 ft. Empire's Dolechek 1, sw sw sw 7-16s-7w, mim.

GRAHAM COUNTY—Vickers Pet. Co. et al's Hutton 1, ne ne se 29-8s-22w, co 828 ft.

GRANT COUNTY—Piney O&G Co.'s Kennedy 1, csw ¼ 10-29s-36w, dr 990 ft.

GREENWOOD COUNTY — Mohawk Oil Co.'s Edgar 1-A, ne ne sw 2-28s-8e, lcn. Ward McGinnis' Crawford 1, cne se 8-28s-12e, dr 1050 ft.

HARPER COUNTY — Marathon Oil Co.'s Zellers 1, csw nw 17-35s-8w, lcn.

HARVEY COUNTY—Ok-Tex et al's Osborne 1, cse se 6-23s-3w, br.

KINGMAN COUNTY—Lauck et al's Skilling 1, se se sw 33-27n-8w, wocs at 4022 ft.

LOGAN COUNTY—Alma Pet. Co. & McNeely's Watchorn 1, csw ne 13-15s-33w, cemented 5 3/16-in csg 3780, ft to test

McPHERSON COUNTY—Carey et al's Husband 1, se se nw 6-19s-1w, td 3758 ft, D&A. What et al's Stromquist 1, sw se se 2-19s-3w, dr 2360 ft.

NORTON COUNTY—Lario O&G Co. & Elwell's Kennedy 1, sw sw nw 22-3s-23w, br.

PRATT COUNTY—Skelly et al's Gilchrist 1, cse ¼ 7-28s-11w, dr 3864 ft. Lario, Elwell & Atlantic's Lemon 1, se se nw 12-29s-13w, lcn.

RENO COUNTY—Allison-Fitzwilliams et al's Dukelow 1, ne ne ne 11-22s-8w, td 4245 ft, D&A. Shell Pet. Corp.'s Reese 1, cw½ w½ sw 11-26s-9w, sd. Ghormley's Duwe & Dustin 1, cne nw 17-24s-7w, spd and sd. Amerada et al's Hilger "A" 1, ne ne sw 21-26s-w, coring 4192 ft. Winkler-Koch et al's Brownlee 1, sw sw sw 31-24s-10w, dr 1585 ft.

RICE COUNTY—Anderson-Kerr's Wernet 1, nw nw nw 24-20s-9w, td 3647 ft, D&A. Detrick et al's Conner 1, cne ne 28-19s-7w, dr 2540 ft. Empire O&G Co.'s Schroeder 1, sw se se 7-18s-9w, dr 2085 ft. Detrick et al's Monroe 1, cne ne 9-20s-7w, sd 975 ft.

ROOKS COUNTY—El Dorado Ref. Co. et al's Marshall 1, cse se 8-7s-17w, dr 2895 ft. Gillespie & Son's Low 1, ne ne nw 12-6s-18w, cementing hole at 1300 ft.

RUSH COUNTY—Ramsey Pet. Co. et al's Darkes 1, sw sw nw 5-17s-20w, dr 4042 ft.

RUSSELL COUNTY—Coraleana's Berrick 1, ne nw ne 6-15s-13w, td 3220 ft, pb 2918 ft, to test. Hartman & Blair et al's Claussen 1, se ne sw 34-12s-14w, td 3122 ft, D&A. Johnson et al's Mermis 1, ne ne sw 29-13s-15w, dr 2800 ft. Central Pet. Co.'s Boxberger 1, nw nw nw 36-15s-16w, dr 1585 ft. Davidson et al's Polcyn 1, se sw nw 6-14s-15w, dr 310 ft. Phillips Pet. Co. & Sinclair Prairie Oil Co.'s Driscoll 1, nw nw se 31-15s-11w, cellar. Sam Murphy et al's Enschutz 1, sw sw sw 10-15s-13w, mim. Derby Oil Co.'s Karst 1, sw nw ne 27-25s-14w, lcn. Murfin et al's Gorham Estate 1, ne ne se 29-14s-15w, running 12-in csg 615 ft.

SEDGWICK COUNTY — Dickey et al's Chase 1, se se se 11-27s-2e, td 3279 ft, cementing above pay. Dickey Oil Co. et al's Wilbur 1, sw sw sw 15-27s-1w, br.

STAFFORD COUNTY — Atlantic Oil & Phillips Pet. Co.'s Cornwell 1, cne sw 4-25s-13w, td 4270 ft, D&A. Atlantic & Phillips et al's Community Brown 1, cnw ne 16-23s-13w, dr 3845 ft.

SUMNER COUNTY—Winkler-Koch et al's Belseley 1, sw sw nw 2-32s-2w, dr 4266 ft.

Wilson et al's Clark 1, csl nw 15-35s-1w, ur 8-in csg 2540 ft. Pulse's Buss 1, nw nw nw 12-32s-2e, dr 565 ft. Orcutt & Stewart's Newton 1, se se se 21-30s-2e, spd.

TREGO COUNTY—Hansa & Lauck's Lang 1, se se nw 1-14s-21w, td 3893 ft. Vickers Pet. Co. et al's Secor 1, nw nw nw 25-15s-24w, ur 5-in csg 4405 ft. Central Commercial's Wagg 1, nw nw se 17-13s-21w, dr 995 ft.

WOODSON COUNTY—Coulter, Davidson et al's Paske 1, nw nw se 25-25s-13e, fsg 1454 ft.

OKLAHOMA

ALFALFA COUNTY—Fex-O-Kan's Acre 1, csw ne 14-24n-11w, fsg 6475 ft. Marathon Oil Co.'s Werner 1, nw nw sw 18-29n-9w, lcn abd.

ATOKA COUNTY — Vierson et al's Williams 1, ne sw nw 34-2s-10e, ur 8-in csg 2375 ft. Price's Aetna Life Ins. 1-A, nw sw ne 10-1n-13e, dr 1775 ft. Sears' Downing 1, se se nw 17-1s-14e, abd.

BEAVER COUNTY—Anderson-Kerr et al's School 1, csw se 36-5n-26 ECM, cementing hole.

BECKHAM COUNTY—Martin's Hood 1, cne nw 7-8n-23w, dr 2422 ft.

BRYAN COUNTY—Selby Oil & Gas Co.'s Gilbert 2, sw ne sw 25-8s-7e, rur.

CADDO COUNTY—Denver P&R Co.'s Sah-Cam 1, cse se 33-10n-10w, lost circulation at 8000 ft. Turner et al's Sapin 1, ne ne sw 1-5n-11w, td 3166 ft. Lee et al's Horton 1, ne ne ne 9-6n-13w, fsg 1400 ft.

CARTER COUNTY—Carter Oil Co.'s Humble-Williams 1, sw ne sw 27-2s-3w, td 8088 ft. Louis Sykes' Byrd 1, sw se sw 4-2s-2w, sd 965 ft.

CLEVELAND COUNTY — Hall - Briscoe, Inc.'s Fant 1, sw sw ne 27-10n-2w, dr by at 6732 ft. Sinclair Prairie Oil Co. et al's Lizzie Hasmann 1, sw se sw 21-10n-2w, set 7-in csg 7468 ft, wocs.

COAL COUNTY — Carter Oil Co. et al's Thompson 1, csl ne nw 34-2n-9e, td 6003 ft, set 8⅝-in csg 5993 ft, wocs. Southern Oil Co.'s Fish 1, sw sw sw 6-1s-8e, spd and sd.

COMANCHE COUNTY—Stevens' Green 1, se se sw 2-1n-13w, sd 1893 ft. George Pace et al's Spencer 1, sw sw sw 21-3n-10w, dr 450 ft. John Nicholas' Household 1, ne ne sw 8-2n-10w, dr 790 ft. Imbodin et al's Smith 1, sw sw sw 12-2n-10w, sd 238 ft.

COTTON COUNTY—Yoakum's Hunter 1, se se ne 9-3s-13w, rig and tools on ground.

GARFIELD COUNTY—Herndon Drlg. Co. et al's Whitaker 1, se se se 27-24n-3w, dr 3930 ft. McBride et al's Gage 1, se se ne 27-22n-3w, sd 610 ft.

GARVIN COUNTY—Suggett & McElreath's Allie Camp 1, ne ne se 22-4n-1w, dr 2880 ft. Orbit Oil Co.'s Federal Land Bank 1-A, se sw sw 10-4n-3e, dr 680 ft.

GRADY COUNTY—Sayre Oil Co.'s Brooks 1, ne ne se 36-4n-4w, td 3000 ft, D&A. McKnight's Willis 1, ne se ne 26-5n-7w, lcn.

GRANT COUNTY—Stanolind's Crouse 1, cne sw 29-25n-8w, dr to 4633 ft, trying to pull csg. Shell Pet. Corp.'s Foster 1, nw nw se 30-27n-8w, dr 5892 ft. Wentz et al's Wirtz 1, se se nw 22-28n-4w, dr 3710 ft. Morton's Warren 1, se se nw 19-29n-4e, sd 1490 ft. Southern Oil Co. et al's Allen 1, sw sw se 36-26n-4w, dr 925 ft.

HUGHES COUNTY—Sivils et al's Montgomery 1, nw sw nw 7-9n-8e, dr 1510 ft.

JEFFERSON COUNTY—Barrett's Most 1, cn½ nw sw 9-6s-7w, dr 715 ft. Twin State Oil Co.'s Bassett 1, nw sw sw 16-5s-7w, lcn. Jones et al's Edwards 1, nw nw se 27-3s-6w, lcn.

JOHNSTON COUNTY — Equitable O&G Co.'s Bellsey 1, ne ne sw 12-2s-4e, dr 575 ft. Neff & Godfrey's Merrell 1, nw se se 28-4s-6e, dr 510 ft (corrected). Moore & Wirick's Westheimer & Daube 1, se nw ne 19-3s-4e, rig and tools on lcn.

KAY COUNTY—Robinson Drlg. Co. et al's Hermes 1, sw sw nw 6-26n-4e, dr 3847 ft. Helmerich & Payne's Roth 1, sw sw sw 8-28n-2w, br.

KIOWA COUNTY—Connelly's McCord 1, nw se ne 15-1n-17w, sd 665 ft. Rogan Oil Co.'s King 1, se se nw 11-6n-18w, sd 30 ft. Rajah et al's Stone 1, cse ne 34-7n-17w, td 1547 ft, pb 1050 ft, to test. Gilbreath's Shirlow 1, ne ne se 28-7n-20w, abd.

LINCOLN COUNTY—Garfield Buell et al's Seward 1, ne nw se 25-14n-3e, dr 3930 ft. Cozart's Sekovaty 1, ne ne nw 14-14n-3e, cellar and pits. The Texas Co.'s Vanderpool 1, nw sw se 11-16n-3e, br.

LOGAN COUNTY — Stanolind-Amerada & Eason's Gragg 1, sw sw ne 20-18n-4w, fsg 5448 ft. The Texas Co.'s Wood 1, sw sw ne 34-15n-5w, dr 6398 ft. Springrose Drlg. Co. et al's Cole 1, sw sw nw 32-15n-1e, mit.

LOVE COUNTY—Sinclair Prairie Oil Co.'s Stockton 1, se se sw 26-6s-2w, dr 6350 ft. Amerada & Stanolind's Westheimer & Daube 1, sw se sw 27-6s-2e, dr 1515 ft.

McINTOSH COUNTY—I. T. I. O. Co.'s Toncred 1, sw sw ne 9-9n-14e, br.

NOBLE COUNTY—Darby Pet. Co.'s Baker Heirs 1, ne ne se 1-23n-2w, cellar.

OKFUSKEE COUNTY—Sunray's Culla 1, ne sw ne 13-12n-8e, td 4194 ft, to pb to 4101 ft and acidize. Sherry et al's Washington 1, sw sw ne 21-13n-7e, dr 1205 ft.

OKLAHOMA COUNTY — Sinclair Prairie Oil Co.'s Corbett 1, ne nw ne 17-13n-3w, trying to knock out bridge. Sinclair Prairie Oil Co. & Slick-Urschel's Kratky 1, se se ne 19-13n-3w, td 6575 ft, woc.

OSAGE COUNTY—J. A. Freeburg et al's 1, ne ne se 1-25n-6e, hfw 3108 ft, D&A. The Texas Co.'s Osage 1, sw sw se 22-24n-6e, dr 2929 ft.

PITTSBURG COUNTY — Vaughn et al's Chunn 1-B, ne se nw 29-4n-14e, dr 1560 ft.

PONTOTOC COUNTY — Continental's McCarthy 1, csw nw 12-1n-7e, dr 4480 ft. Gypsy Oil Co.'s Emry 1, sw sw ne 15-2n-6e, dr 2763 ft. Ada Pet. Co.'s Simmon 1, cwl nw nw 8-3n-6e, td 4721 ft, coring ahead. Southern Oil Co.'s Perry 1, sw sw nw 11-4n-6e, dr 2700 ft. McBride et al's Chester 1, se se ne 26-4n-4e, rig.

POTTAWATOMIE COUNTY — Ross Oil Co. et al's Sparkman 1, se se ne 33-8n-4e, dr 2030 ft.

PUSHMATAHA COUNTY — Whitehead's Messer 1, se sw sw 35-3s-18e, dr 3480 ft.

ROGER MILLS COUNTY — Anderson & Kerr et al's Teeter 1, cse se 2-17n-25w, lcn.

SEMINOLE COUNTY — Deep Rock Oil Corp.'s Robert 1, sw nw nw 32-9n-8e, dr 3888 ft.

STEPHENS COUNTY — Franklin & Duncan's Woolsey 1, nw nw se 10-3s-6w, sd 1050 ft. Prince Bros.' Williams 1-A, sw sw se 19-2n-8w, td 2505 ft, D&A. Shasta Oil Co.'s Fuqua 1, ne nw nw 13-1s-7w, dr 1000 ft.

TILLMAN COUNTY — Gypsy Oil Co.'s Schenck 1, se nw se 31-1s-16w, td 1485 ft.

WASHITA COUNTY—McWhirter et al's Fee 1, sw sw sw 34-8n-19w, fsg 1100 ft.

SOUTH TEXAS

ATASCOSA COUNTY—R. C. Lee, Trustee's (Atascosa Trust) U. A. Doumch 1, 152-ac tr, blk 10, J. T. Russell survey No. 1222, 3 miles north Poteet, sp and sd, dr water well.

BANDERA COUNTY—Palm Winn Oil Co.'s R. B. Watson 1, A. Curver sur, No. 71, 2 mi n Medina City, sd 2035 ft. Plateau Oil Co.'s R. G. Garrison 1, sec 506, GC&SF sur, 8 mi sw Medina City, elev 1831 ft df, dr 4850 ft.

BASTROP COUNTY — Batts & Jarmon's Mrs. Mary Harris 1, J. Maximillian sur, N. Dale area, elev 432 ft, df, dry and abnd 2285 ft. Marts & Beavans' J. B. Kirksley 1, 75-ac tr, Geo. G. Glasscock sur No. 21, 1 mi e Elgin, dr 1450 ft. Joe Mills' W. W. Litton 2, A. Navarro sur, N. Cedar Creek area, no rept. Port Isabel Oil & Gas Co.'s G. A. Smith 1, 240-ac tr, J. B. Blalock League, se Schimmel and Batts pool, dr 1000 ft. Swearingen & White's Travelers Insurance Co. 1, 780 ft sl, 1150 ft wl 700-ac tr, 5 mi w Cedar Creek, lcn. Winters & Russell's B. D. Lane 1, 101-ac tr, J. Standifer sur, 6 mi sw Elgin, ru.

BEE COUNTY—Mills Bennett's Mrs. Wm. Rapp 3-A, C. A. Dugat sur, ab 521, w outpost Dirks field, completing 3825-40 ft. Geo. M. Church's Webb Hearn 1, commence nw cor of 1633-ac tr, thence 1650 ft se along rd, thence ne 990 ft at right angles in 92-ac lease, E. Ryan sur, 2000 ft se discovery well Beeville field, mir. H. H. Coffield's A. C. Cowie 1, blk 6, Peter Allen sur No. 170, on Live Oak County line, sw of Plummer field, dr water well. Clyde Echols et al's J. T. Hudman 1, Chas. Baker sur, sw outpost well, Caesar field, sand 3081-88 ft, set 7 in csg 3081 ft, wocs. D. C. Smith's Willis A. Robertson 1, T. B. Barton sur, 1500 ft se discovery well Plummer field, ru. Worth Oil Co.'s Rutledge 4, A. Hadley sur, Patent 364, Rutledge area, lcn.

BEXAR COUNTY — Carter & Ingersoll's Louis Mann 1, 150 ft sl and wl of 60-ac tr, John Christopher sur, 3 mi s Von Ormy, dr 110 ft, 12½ in csg set 98 ft. James B. Cunningham et al's D. F. Ridder 1, Baerrera sur, abs 50, 2 mi e McDonna, sd 860 ft. Fay T. Chew et al's Bonkowski 1, 130-ac tr, sec 9, Jacinto Pena sur, 1½ mi e Adkins, lcn. Dorine Oil Co.'s S. Tudyk 2, blk 4, F. Cardenas sur, 18 mi e San Antonio, temp abnd 759 ft. Sidney Haywood 1, 1000 ft e Tudyk well, making lcn. Joe Deupree's R. S. Coffey 1-A, F. Rodriquez sur, 7 mi s San Antonio, dr 935 ft. McPhee & Briggs's Florence Lamb 1, M. de Luna sur No. 4, 22 mi s San Antonio, temp abnd 2452 ft. Nick Marosis' Joe Florey Est. 2, Stephen Jett sur, at Von Ormy townsite, lcn temp abnd; L. G. Wisdom 1, 150 ft nl and wl 9.73-ac tr, F. Rolen League & Labor sur No. 48, at Von Ormy townsite, mir. Burt Mowinkle's Joe Kutzur 1, 432 ft nl, 150 ft wl of tr in S. F. Longeville sur, e of S. A., sp. Carrol G. Raborn's Claud McCauley 1, Wm. Harris sur No. 52, 4 mi s San Antonio, td 954 ft, 6⅝ in csg 590 ft, 5 3/16 in liner to td, showed nothing when bailed, to pull liner and dd to Austin chalk. H. B. Starkey's (was Joseph H. Parker) M. McCloskey 1, F. A. Desaque sur, 5 mi nw Somerset, sand and sandy shale 722-79 ft, wocs. F. M. Shaver's A. W. Bitter 1, J. M. Baerrera sur, near McDonna, dr 825 ft, last rept. Fred Thorman's Sahm 1, Peter N. Hayes sur No. 3, 2 mi s of Martinez, td 50 ft, bldg dk to move in rotary.

BLANCO COUNTY—R. T. Rowe & W. E. Nixon's Polk Morrisey 2, T. H. Webb sur, No. 11, 2½ mi e Blanco City, no rept.

BROOKS COUNTY—United Prod. Co.'s K. J. Hocker 1, Palo Blanco de Maguelles gr., Palo Blanco area, sd 5351 ft. Winfield & Moser's W. Singer 1, se¼ sec 312, nw part of county, sd 1045 ft.

CALDWELL COUNTY—Ballard & Whitting's A. G. Bridges 1, S. Seal sur, sd 2204 ft. S. S. Cargill's Damerau 3, Dillard Cooper sur, Branyon area, dr 1250 ft. C. & C. Fuel Oil Co.'s (Clark & Crouch) Jolly 1, Cornelius Crenshaw sur, Larremore area, td 1296 ft, top Edwards lime 1287 ft, 6⅝ in csg, set 972 ft, comp, put on pump. Detroit-Tex Dev. Co.'s W. P. Dunlap 3, S. F. Sanders sur, Dunlap area, fsh 2322 ft. J. J. Elam et al's Francis-Brown-Cochran 1, W. F. Young sur, 5 mi e Luling, W. C. Jennings' McMahon 1, 250 ft sel and swl of tr, James Pinchback sur, se of Lockhart, lcn. Max W. Koenig, Inc.'s W. J. Tiller 8, 300 ft n No. 6 and 200 ft nw No. 7, John Henry sur, Luling, dr 1250 ft. Port Isabel O&G Co. & H. H. Weinert's M. T. Baker 1, 167-ac tr, G. W. James league, ne McMahon, sp. R. Y. Walker No. 2 Walker Bros. 2, S. Seal sur, fsh 2036 ft.

CALHOUN COUNTY — Continental Oil Co.'s Am. Nat'l Realty Co. (Moody) 2, sec 6, C. P. Garcia sur, 9 mi se Seadrift, cement junk 7384 ft, wocs. Crown Central Pet. Corp.'s Wilson 1, A. Esparza sur, Port Lavaca area, td 6315 ft, dr 6105 ft in sdtr hole. Halliburton Oil Prod. Co.'s D. Burton 4, M. Sanchez sur, Port Lavaca area, td 7460 ft, dst 6240-45 ft, in sdtr hole, show some oil and mud. Humble O&R Co.'s Mrs. Eliza Welder 1, 5 mi fr Victoria line and near Heyser, ru. Matagorda Oil Corp.'s Brundrett Est. 1,lot No. 294, Brundrett Estate 1, J. Power and J. W. Hewitson league 2, Matagorda Island, sd 176 ft.

CAMERON COUNTY — J. F. Anderson's Turfitt 1, blk 397, San Benito sub, Espiritu Santos gr, 3 mi ne Rio Hondo, sd for orders 5194 ft. W. T. Daniels & King-Woods Oil Co.'s Port Isabel Co. 1, center lot 17, shares 29, 30 and 31, Buena Vista gr, 6 mi n Bayview, sp and sd, wor.

DE WITT COUNTY—R. Bourke's Steinman 1, Uriah Blue sur, 6 mi s Yoakum, sd 2408 ft.

DIMMIT COUNTY — Diamond Half Oil Co.'s A. Earley Est. 1, R. G. Morgandale sur No. 6, ab 1322, 5½ mi nw Carrizo Springs 1, dry and abn 4256 ft.

DUVAL COUNTY — The California Co.'s Gruy Est. 1, sec 157, 2 mi e Kohler area, twist off ds 3140 ft, fsh. Continental Oil Co.'s Clara D. Sevier 6-A, sec 447, Driscoll field, td 3435 ft, sand 3406-23 ft, run csg to td, made small well thru perforations, trying to wo. P. K. Kelly's Tinney Est. 1, sec 8, Piedras Pintas area, sd 804 ft. Marshall-Denton-Aiken's Rogers Est. 1, sur No. 15, 9 mi nw of San Diego, dr water well. Magnolia Pet. Co.'s Emil Labbe 1, sec 2, Labbe district, sand 2480-88 ft, 7 in csg 2480 ft, comp as gasser, est 25 mcf; Duval-Sentz 1, sec 165, 1½ mi nw Charamousca pool, dr 3380 ft. T. P. Morgan's J. F. Welder heirs 1, section 591, 1 mi s Seven Sisters field, sp. Stanolind O&G Co.'s Ira G. Yates (Farmers Life Ins. Co.) 2, sec 416, E. R. Gray Ranch, 660 ft w of No. 1, Labbe area, dr 1961 ft. The Texas Co. & Ohio Fuel Oil Co.'s Duval County Ranch Co. 1, sec 96, Piedras Lumbre, dr 2525 ft. Texla Oil Corp.'s Nueces Land & Live Stock Co. 1, sw ne sec 101, 5 mi nw Eagle Hill, dr 2720 ft. Trinity Drillers et al's Clara Driscoll Sevier, Sweden Farm Lands, sec 68, Santa Rosalia gr, nw Driscoll field, lcn. Westheimer & Daube's L. Campos 1, sec 224, east outpost well of Seven Sisters field, dr 125 ft.

EDWARDS COUNTY—Paul Teas' B. J. Stewart 1, se¼, sec 2, GC&SF sur, lcn for 6000 ft test.

FRIO COUNTY—W. D. Bacon et al's J. E. Burns 1, T. H. Clifton sur, sw Bigfoot, sd 2157 ft.

GOLIAD COUNTY—Brown & Wheeler's Kauffman 1, P. Trevino sur, Hords Creek, old producer, former td 4538 ft, mir to dd. Keystone Royalties Co.'s C. B. Wood 2 (1-A), John Shearn sur, 3 mi e Berclair, re-dr 6011 ft. Sun Oil Co.'s J. R. Kauffman 1, T. T. Trevino sur, 1 mi ne Hords Creek field, lcn cleared. Thompson Drlg. Co.'s H. Taylor Est. 1, W. R. Smith sur, 6 mi nw Goliad, ru, dr water well.

GONZALES COUNTY—Forrester Oil Co.'s H. B. Steen 1, N. M. Bane sur, s part of county, sd 150 ft. Inter-Allied Pet. Corp.'s C. M. Wells 1, tr 3, sub 1, Jose de la Baume sur, dr 4405 ft, top Austin chalk 3722 ft, Eagleford 3897 ft, Buda 3928 ft, Georgetown 4082 ft. Resource Oil Co.'s Otto Lanbeck 1, J. M. Salinas sur, 3 mi w Gonzales, sp and sd.

GUADALUPE COUNTY—F. N. Gallagher's W. B. Lay 1, J. K. Davis sur, S. Darst Creek, lcn. Jim Harper et al's J. Z. Fulshear 3, Robt. Smith sur, 2 mi nw Prairie Lea, sd 2110 ft.

Henadena Oil Co.'s (Sterling & Wilson) R. P. Lowman 2, G. Allen sur, Staples, mim. Hopkins Bros. et al's J. H. Sherrill 1, 62.5-ac tr, Geo. Allen sur, completing abt 850 ft. A. D. Locke's J. S. Slaughter 1, 180 ft nl and wl 105.3-ac tr in Cyrus Campbell sur, 1 mi nw Staples, dr 435 ft. R. C. Robbins' Mrs. J. W. Manford 1, James Hodges sur No. 374, 1250 ft e Manford pool, dr 1150 ft. W. J. Walton et al's Allen Phillips 1 (was Minerals Corp. of Texas), Cortines sur, 10 mi sw Seguin, reinstated 868 ft, now dr 1525 ft.

HIDALGO COUNTY—Gulf States Oil Co.'s Delta Orchards 1, lot 2, blk 73, Las Mestinas gr, 1 mi s Mestinas field discovery well, ru; J. C. Engelman 2, lot 3, blk 70, Las Mestinas gr, 500 ft e of Mestinas field discovery well, set 683 ft 10 in csg, wocs. Kingwoods Oil Co.'s Osca Daskam 2, 723 ft nl, 1805 ft el, blk 30, por 45, 10 mi nw Mission, mim. Lensgraf-Walden-Carmen's Brock & Showers 1, lot 4, blk 12, por 80, Juris of Reynosa, 12 mi nw Mission, dr 2262 ft. Maxwell-Mundy-Morris' Southland Dev. Co. (Hidalgo County Water Control & Imp. Dist.) 1, 500 ft nl and wl, lot 11, blk 20, Alamo Land & Sugar Co. Subd, Alamo tr, 4 mi s Alamo, dk. S. J. Sloan et al's Brock & Showers 1, lot 9, blk 16, por 80, Juris of Reynosa, w of Mission, td 6003 ft, ran electric formation test, set csg at 4715 ft, gas sand 4655-71 ft, oil sand 4671-94 ft, perforate csg, 24 holes between 4766-77 ft, swabbed sw and skim of oil, recemented csg, woc. Stevens & Mundy's F. B. Guerra 1, tr 12, por 41, 2000 ft n Samfordyce field, elev 188 ft, df, td 3030 ft, set csg 2990 ft, swabbing. Union Sulphur Co.'s A. R. G. L & I. 5, lot 2082, blk 86, N. Capisallo district, Llano Grande gr, Mercedes area, td 7529 ft, reinstated, prep to plug back to 7400 ft, set whipstock to sdtr and recore sand; ARGL&I 6, tr 2358, blk 49, N. Capisallo district, 4500 ft ne of Mercedes field, dr 6495 ft, shale.

JACKSON COUNTY—L. A. Douglas et al's I. N. Mitchell Est. 1, 150 ft sl and el 335-ac tr, Stephen F. Austin sur, 1 mi sw Lolita, lcn. Shell Pet. Corp.'s Mauritz Bros. 1-A, tr 19, A. Kountze sur, ab 237, nw of Mauritz field, coring 5793 ft, dst 5735-55 ft, show 3500 ft sw 4 min. Smith & McDonald's Mauritz Bros. 1, Cummings sur, No. 17 (Pure Oil Co. lease) Mauritz district, dr 6646 ft, shale. T. P. Coal & Oil Co. and Venza Oil Co.'s J. M. Roseborough 1, Morris & Cummings sur No. 33, ½ mi s Mauritz field disc well, coring 4706 ft.

JIM HOGG COUNTY — S. L. Miller Oil Co.'s Yeager 1, 150 ft el, 475 ft sl blk 6, sur 20, dr 2100 ft.

JIM WELLS COUNTY—R. Putnam et al's E. A. Hawkins et al 1, sh 4, in sh 3, San Diego gr, dr 2550 ft. M. T. Smith & Son's J. C. McGill 1, N. Gussset sur No. 98, 660 ft s of Smith & Story No. 1 Dilworth gasser, Armagosa dist., 2300 ft, coring. J. E. Walsh's W. D. Wade 1, lot 3, blk 6, W. H. Bode sub, Sandia district, 1195 ft, sd.

KENDALL COUNTY—J. E. Freeman's Gerfer's 1, Mark Hodgson sur, No. 786, sd 102 ft. Southwestern Dev. Synd. Ltd.'s Willie Werner 1, Torrey sur No. 781, Sisterdale area, underreaming below 972 ft.

KERR COUNTY—Auld & Evans' Heffner 1, sec 13, BS&F sur, ru and sd. Jeff Love & Eastland Oil Co.'s Jeff Love 5-E, Martinez sur, sec 1594, ½ mi se original Love Ranch test, sd 5625 ft.

KIMBLE COUNTY — Forest Dev. Co.'s Stapp 1, sec 282, set 190 ft csg to re-dr. Wilcox O&G Co.'s Patterson 1, sec 1, D&P Ry. sur, ab 915, dr 4450 ft.

KLEBERG COUNTY—John Bartlett's Anton Dietz 1, blk 16, sec 48, KT&I sur, 2 mi sw of Kingsville field, set and cemented 300 ft 10 in sur csg, woc. Harry Clark's W. S. Rogers 1, lot 1, blk 36, Kleberg sur, sd 750 ft. Fidelity Explor. Synd.'s R. G. Flato Trustee 1, blk 14, sec 40, KT&I sur, 2980 ft, dr.

LA SALLE COUNTY—O. N. Beer & C. L. Witherspoon's La Salle Co. 1, sec 19, near Fowlerton, wor. Roy Shipman's Coleman 1, sec 514, just west of Atlee, dr 800 ft.

LEE COUNTY—Douglas Spivey et al's First Nat'l Bank (T. S. Henderson) 1, Wm. L. Mock sur, lcn.

LIVE OAK COUNTY—C. A. Beaucamp's S. A. Joint Stock & Land Bank 1, lot 10, J. Turner sur, ne of Calliham, lcn temp abnd. Benco Oil Co.'s Eliz Mahoney 1, Mark Killely sur, 3 mi w Three Rivers, sd 78 ft. The California Co.'s No. 1 Gillett Community Lease fr sw cor lease 2540 ft se along swl thence 450 ft ne at rt angle, Refugio School Land sur, 5 mi e Oakville, ru. Earl Callaway et al's W. R. Lyne 1, sec 74, M. M. Lyne sur, ab 763, dr 2540 ft; Moozegembe 1, lot 122, Geo. Est sub, blk A, ab 113, S. L. Williams sur, lcn. Conway & Beuscher's Sanger 1, GC&SF sur No. 383, ab 636, 15 mi sw Geo. West, coring 2985 ft. Lion Oil & Refining Co.'s Dick Dobie 1, GH&H sur No. 23, s edge of McNeill field, dr 6135 ft. Luray Oil Co.'s Little 1, M. M. Shipp sur, ne offset discovery well in McNeill (North) field, dr 2800 ft. Ogden & Reed's D. C. Reed 1, Clegg ranch, sw part of county, dk. Santa Clara Oil Co.'s R. H. Corbett 1, 2640 ft nwl and swl sec 2, Corbett sur, (center of sur) 1 mi fr wl and 2 mi fr sl of county, lcn. Slick-Urschel Corp.'s Watson & Shipp 1, P. Salinas sur, Fort Merrill area, mim. Smith & Story's Dinero Townsite 2-A, Jane Curry sur, North Lucas area, dr 5165 ft. Trinity Drlg. et al's P. E. McNeill Est. 1, blk 10, Jane Curry sur, sw outpost well McNeill field, dr 500 ft. Wheelock & Collins' Mac F. Kerbey 1, 1650 ft sl of 817-ac tr and 5975 ft fr el of T. R. Reese sur, near ne line of Live Oak county, sw of Caesar field, dr water well.

MAVERICK COUNTY—Thompson & Streeter's Joseph Wipff 1, sec 18, 7 mi w Chittim field, 10 mi n Eagle Pass, sd 220 ft.

McMULLEN COUNTY—Aransas Oil Co.'s M. H. Reed 1, J. A. Spicer sur No. 70, 12 mi sw Tilden, sd 1681 ft. Bussa Oil Co.'s J. H. Dickinson 1, 4340 ft nl, 330 ft el of G. B. Dilworth sur No. 24, 3 mi se of Tilden, sd 520 ft. Darby Pet. Corp.'s E. R. Hagist 1-B, 6 mi w Loma Alta field, d and abnd 2510 ft. L. O. Gleason's Fitzpatrick 1, J. A. Loving sur, No. 52, 2106, corrected td, prep abnd. Marzo Oil Co.'s E. R. Hagist 1-B, sec 6, southern part of county, sd 1350 ft. L. D. Ormsby's Jacob 3, Spark's sur No. 18, dry and abnd 988 ft, (depth in doubt). Reliance Oil & Royalty Corp.'s Shiner Ranch 1, sec 29, Shumway sub of Shiner Ranch, ru. Stewart et al's Guy Lowe 1, Geo. Bright sur No. 21, 5½ mi sw Tilden, dr 290 ft. Stephenson & Wuest's Fisher 1, R. O. O'Boyle sur, nw of Calliham, comp as gasser, 502 ft. Texas Inland Oil Co.'s H. L. Lark 2-A, M. O'Boyle sur, south of Jacobs field, completing. Stella Tiechman's J. J. Henry 1, 900 ft nl, 330 ft el of 575-ac tr, A. Torres sur, No. 20, ab 457, 7 mi w Tilden, dr 150 ft.

MEDINA COUNTY—Frank A. Brown's A. E. Brueks 1, John Ward sur, dr 507 ft; Mary R. Winn 1, sp. Caroco Oil Co.'s (Callahan & Roberts) H. Taylor 2, A. Brushet sur No. 135, 5 mi sw Hondo, co to dd, 380 ft. E. J. Deupree's L. J. Brueck's 1, Henry Castro sur No. 248, dr 750 ft. Ed Falvey et al's McMenemy 1, sur No. 331, G. Petty sur, 4 mi se Devine, dr 150 ft. Gates & Hill's Odom 3, H. Castro sur No. 174, 5 mi sw Hondo, dr 350 ft. Letro Oil Corp.'s F. B. Forest 1, sec 60, 1½ mi ne Ina field, 1½ mi Adams field, ur 470 ft. Scoggins & Sanders' L. W. Burell 1, M. E. Gage sur No. 395, elev 867 ft, dr 2125 ft.

MILAM COUNTY — Mincryst Mfg. Co.'s Bartek 2, J. A. Depena sur, 3 mi ne Buckholts, sd 1665 ft. L. G. Priest's T. J. Carver 1, 60-ac tr, S. P. Carson sur, 2½ mi sw Rockdale, lcn.

NUECES COUNTY — Bluff Pet. Corp.'s Bluntzer 1, sh 6, Bluntz Lands, Casa Blanco, 10 mi n Banquette, dr 2450 ft. J. K. Culton's H. B. Baldwin et al 1, blk 20, Russell Farm Blocks, 1½ mi w Corpus Christi, sand 4062-82 ft, 7¾ in csg 4076 ft, comp 62 bph oil, 2 mcf gas per day, 5/32 inch ch, tp 1350 lbs. cp 1650 lbs. La Jita Corp.'s Richard King Est. 1, se¼, sec 22, Richard Ranch sub, ne disc well, King field, td 6008 ft, set 7 in csg 5220 ft, pb 4012 ft, perf csg 3983-89 ft, comp gasser spray distillate thru ¼ ch, tp 1650 lbs. Masterson et al's Walt Eschberger 1, sec 37, Pauls sub, Driscoll Ranch, 5 mi s and w of Robstown, mim. H. A. Meyer's J. Harney Gregorio Fariss League, 1400 ft s of Nueces river, 1 mi e Callahan, lcn. Sherman Nelson et al's Bertha Buckholt 1, blk 4, sec 316, Buckholt Partition, 2 mi e Baldwin field, set sur csg, woc. Santa Clara Oil Co.'s Clara Driscoll Sevier 1, Wm. Gamble sur, ab 6, 1¾ mi ne Driscoll, dr 2650 ft. Shell Pet. Corp.'s Ed F. Flato 1, trs 9 and 10, H. H. Sheppard Farm Lots, td 7006 ft, pb 4750 ft, set csg, perf csg 4542-50 ft, comp 562 bpd thru 5/16 ch. Texon Royalty Co.'s Taggert 1, 330 ft nl and el blk 5, R. Schaeffer land sub sur 401, 1 mi w of Saxet field, digging pits.

REAL COUNTY—H. J. Heartwell et al's L. J. Haby 2, AB&M sur No. 175, sd 3225 ft.

REFUGIO COUNTY—Edwin M. Jones' J. M. O'Brien 11-A, N. S. Crunk sur, Greta, coring 5731 ft, gas sand 5090-5160 ft, dst 425 lbs. Quintana Pet. Corp.'s Tom O'Connor 24-A, Swisher sur No. 4, Tomoconnor, dr 1352 ft; Tom O'Connor 25-A, Swisher sur No. 3, Tomoconnor, dr 2785 ft.

SAN PATRICIO COUNTY—Argo Royalty Co. & Willie Storm's Nancy Hobbs 1, Delgado gr, 1 mi s Mathis, sd 3520 ft. Benedum & Trees' E. H. Welder 1, sec 34, Welder sub, 2½ mi w of Plymouth field, dr 5620 ft. Magnolia Pet. Co.'s Corpus Christi Bank & Trust Co. 3, H. H. Hunter sur, s of Plymouth field, dst 5614-21 ft, show 300 lbs. 80 ft sw, 40 ft cut oil, 8 min. Plymouth Oil Co.'s E. H. Welder 21-C, Welder sub, se outpost well Plymouth field, 466 ft wl, 2322 ft sl sec 71, ru. Geo. E. Smith et al's J. L. Britton 1, blk 8, sec 5, Third addition, Taft Farms addition, 2 mi se Plymouth field, ru. Sun Oil Co.'s J. M. Hunt

Removing the Nose Plug by hand from the outer case after taking a reading.

Accuracy with

- Ease in Operation
- Ease in Reading

The Anderson

PHOTO-RECORD MAGNETIC SINGLE-SHOT SURVEY INSTRUMENT

Note how easily and accurately the Inclination and Direction are read on the 5° disc.

INTERCHANGEABLE INCLINATION UNITS

This exclusive feature provides the closest possible reading under every condition. The units are supplied for maximums of 5°, 10°, 25° and 65°.

ALEXANDER ANDERSON, INC.
FULLERTON, CALIFORNIA

SURVEYORS OF OIL WELLS SINCE 1924

1, (blks 5 and 6), sec 34, Taft Farm tracts subd, se outpost Plymouth field, set sur csg, woc.

STARR COUNTY—Ash & Tackett's Margo 1, blk 4, sh 3-B, por 70, dr 415 ft. John H. Clopton's Kelsey-Bass 22, por 87, 3½ mi n of State Highway 4, sec 10, dr 265 ft. Cook-Maris-Arnold's Starr County Cattle Co. 1, lot 24, por 84, 2000 ft n of State Highway No. 4, dr 600 ft. Frank Doyno's Seabury et al 1, tr 5, por 75, ½ mi w of Los Olmos field, dr 510 ft. Evans & James' Ferry 1, por 77, 2 mi w Rio Grande City, dr 1465 ft. T. K. Irwin's (was A. Nix et al) Starr County Cattle Co. 1, blk 58, J. L. sub, por 89, Barbacoas area, td 2817 ft, ran electric formation tester, pb and sdtr 1853 ft, sand 2648-54 ft, set 5 3/16 in csg 2646 ft, woc. McCurry & Yates' Starr County Cattle Co. 1, blk 58, J. & L. sub, por 89, Barbacoas area, lcn. Pedernal Oil Co.'s Sarah Welch 2, lot 3, Welch sub, El Pedernal gr, ru. H. J. Porter et al's Garcia Land & Cattle Co. 1-B, blk 2, por 100, nw of Samfordyce field, td 2817 ft, bad hole; skid 50 ft w,. dr to 2412 ft and went into first hole, sd for orders. Hiriam M. Reed's Mrs. Ida Davis 1, lot 16, sh 78, por 81, 1200 feet n of Rio Grande City field, coring 1465 ft.

TRAVIS COUNTY — G. A. Arts' Rolff 1, Thos. Hancock sur No. 20, ½ mi n Sweden, to set csg 905 ft. W. O. Caffey's C. C. Nelle 1, G. Gates sur, sd 520 ft. J. E. Robertson's J. E. Smith 2, L. Kimbro sur, top serpentine 675 ft, oil show 720 ft, dry and abnd 725 ft.

VICTORIA COUNTY—Costa Oil Co.'s Etta B. Terrell 1, 330 ft sel, 660 ft swl (road) 47.5-ac tr, R. Manchola gr, 1500 ft nw Coleto Creek field, sp. Heep Oil Corp.'s J. J. Welder 1, Phillip Graves sur, near Nursery, ru. J. McDowell's Kirasek 1, center blk 45, Placedo townsite, jetting some oil 4758-71 ft. Shell Pet. Corp.'s A. M. McFaddin 2, 11,250 ft el, 2310 ft nl of lse, McFaddin area, lcn, to sp by Nov. 20. Welder O&G Co.'s Welder 1, 2230.9-ac tr in Felipe Dimmit Two League gr, 4 mi s Victoria, set 786 ft 12½ in csg, woc.

WEBB COUNTY—D. E. C. Oil Co.'s Slator Ranch 1, blk 29, Mission Oil Company sub, Slator Ranch, J. S. Borrego gr, dr 2150 ft. French Oil Corp.'s Juan Guerra 1, blk 14, se sec 334, 3 mi ne Oilton, dry and abnd 3272 ft. O. W. Killam's Ortiz Ranch 1, por 17, 6 mi nw Laredo, dr 300 ft; A. M. Bruni 42, blk 30, sur 15, Foltz sub, Arispe gr, se Bruni townsite, dr 2785 ft. Magnolia Pet. Co.'s Volpe Bros. 1, sec 485, north of Carolina-Texas field, dr 4109 ft; Garcia-Arriba 1, blk 8, Henry James sub, Albercas de Arriba sur, 5¼ mi e of Aviator field, dr 450 ft. R. E. Misner's Garcia 1, se¼, sec 457, dry and abnd 2505 ft. Rhea Nixon & R. W. Talbot's A. S. Billings 1, nw se se sec 113, 1 mi sw Lopez field, elev 623 ft, dl, sand 2170-77 ft, dst attempted fr 2170 ft, but tool slipped to 2172 ft, showed 300 ft oil. S. S. & B. Oil Co.'s Lone Star Construction Co. 9, por 12, 12 mi nw of Laredo, dr 165 ft South Texas Oil Co.'s Laurel 2, blk 1, sur No. 269, Laurel area, sd 2081 ft. Superior Oil Co. of Cal.'s W. C. Billings 1, sec 109, ¼ mi e of s end Lopez field, dr 180 ft. W. H. Vernor, Tr.'s Jefferies Ranch 1, blk 13, sec 1453, 30 mi nw Laredo, sd 40 ft. A. H. Wray's Geo. Steumpke 1, sh 1, Brewster Pasture, Joaquin Galan gr, dr 2100 ft.

WILLACY COUNTY — King-Woods Oil Co.'s Stillman Ranch 1, lot 16, blk 30, sh 44, Stillman Ranch sur, San Juan Carricitos gr, td 6511 ft, setting 5 3/16 csg 6200 ft, perf and swabbing sw. L. & S. Drlg. Co. & South Texas Dev. Co.'s F. Armendiez 1-A, Little Share 4, twist off ds, 5315 ft, abnd.

WILLIAMSON COUNTY—Brown et al's Mays 1, T. A. Moore sur, dry and abnd 941 ft. Glass Bros.' A. Albert 1, P. Coursey sur, sd 785 ft. Hays Gee's Coupland State Bank 1, Lancey sur, w of Coupland, dry and abnd 1005 ft. Rule et al's Bochmeyer (Rummell) R. Cartwright's sur, sd 800 ft. G. A. Ripley's A. Muery 1, J. P. Wyeke sur, near Coupland, sd 200 ft. Taylor Refining Co.'s Carolson 1, 60-ac tr, R. Dunman sur, dry and abnd 1653 ft.

ZAPATA COUNTY — Murt Cullinan's E. Gutierrez 1, blk 4, sh 2, Fansler Partition, Comitas gr, 2 mi w Escobas field, lcn. J. J. O'Hern et al's S. Vela 1, blk 3, por 27, 7 mi ne of Charco Redondo field, dr 1620 ft. Joe Palmer's Emma Markrud 1, blk 22, sec 616, sd 1270 ft.

EAST TEXAS

ANDERSON COUNTY — Tide Water and Texas Seaboard Oil Co.'s N. N. Wills 21-A, Cayuga field Trinity test, elev 308 ft, cem 7-in cas 8750 ft, tested hot sw at 8867 ft, pb fr Basal Trinity water sand at 9082 ft to 8110 ft, tested dry, sdo; Shaw & Cern 2 (1216-ac), Daniel Parker sur, Long Lake area, rig.

BOWIE COUNTY—Tex-Ark Oil Co.'s J. B. Hamilton 1 (40-ac), Jessie Milam sur, elev 272 ft, sd 1120 ft. Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw of Dalby Springs, sd 120 ft.

CAMP COUNTY—G. E. and R. E. Hubbard and E. J. Moran's W. H. Mitcham 1 (100-ac), Louis Rose sur, 2 mi n of Newsome, elev 443 ft, Pecan chalk 2472-2680 ft, top Gober chalk 2985 ft, Austin chalk 3830-3879 ft, dr shale 4210 ft. E. R. Smith et al's J. M. Jordan 1, B. Carver sur A-132, 1 mi s of Newsome, elev 438 ft, Pecan chalk 2490-2725 ft, Gober chalk 2975-3014 ft, top Austin chalk 3828 ft, top Woodbine 4267 ft, tested dry at 4296-4314 ft, sdo 4335 ft.

CASS COUNTY—American Liberty Oil Co.'s J. B. Rodgers 1 (167.95-ac), C. M. Robinson sur, Rodessa area, elev 238 ft, cem sur cas. Stanley A. Thompson et al's Coy Hubbard 1 (550-ac), Wm. King sur, 6 mi s Hughes Springs, Pecan chalk 2659-3086 ft, dr 4005 ft. United Production Corp.'s Lake Holt (Thurmond Unit) 1 (6876-ac), John H. Coleman sur, w edge Rodessa field, elev 266 ft, Annona chalk 1957-2450 ft, dr 4900 ft.

CHEROKEE COUNTY — Jacksonville O&G Corp.'s H. B. Henderson 1 (40-ac), J. Pineda sur, 5 mi ne Jacksonville, elev 409 ft, sdo 2220 ft.

COLLIN COUNTY—Port Bolivar O&R Co.'s Clarkston-During 1-A, Wm. Creager sur, elev 722 ft, base Austin chalk 368 ft, top Trinity sand series 2110 ft, dr 3415 ft; J. Shirley 1, Jas. Sorrell sur, elev 684 ft, base Austin chalk 350 ft, Washita lime 1778-81 ft, junked core test, td 1963 ft.

ELLIS COUNTY—Beasley O&G Co.'s Mrs. Erie Roller 1 (200-ac), Ruidoso Irregation Co. sur, 1 mi s Crisp, sp and sd.

FREESTONE COUNTY—J. A. Hoover et al's W. W. McFall 1 (65-ac), S. Garrison sur, A-749, 4 mi se Wortham, elev 451 ft, top broken Austin chalk 2612 ft, top hard chalk 2620-3120 ft, top Woodbine series 3501 ft, dry and abd 3612 ft. J. J. Leighton et al's G. Cochran 1 (100-ac), D. Bullock sur, 6 mi s Teague, Pecan chalk (broken) 3130 ft, hard chalk 3160-3220 ft, sd for repairs, td 3703 ft.

GRAYSON COUNTY—Olson Drl. Co. et al's Southwestern Life Insurance Co. 1 (160-ac), J. C. Jamison sur A-865, 3 mi n Pottsboro, elev 767 ft, dr 2510 ft. Port Bolivar O&R Co.'s Creed Taylor 1, J. Fitzhugh sur, 3 mi se Gunter, dr 2390 ft.

GREGG COUNTY—C. L. Porter et al's Mrs. F. G. Glover 1, Geo. Melton sur, rig.

HOUSTON COUNTY—Housh, Thompson & Benzi Oil Co.'s Houston Timber Co. 1, I&GN Ry. sur No. 31, A-599, 2 mi n Kennard, elev 383 ft, dr 4300 ft. A. H. Smith et al's Smith Bros. 1, J. H. Cummings sur, A-27, 2 mi sw Porter Springs, sd 1800 ft.

HENDERSON COUNTY—C. & G. Oil Co.'s Sterrett 1, Isham Marshall sur, dr 510 ft.

HILL COUNTY—Roger Lacy et al's J. H. Atchison 1, E. Carroll sur, 5 mi w Hillsboro, sp.

KAUFMAN COUNTY—C. C. Pearson et al's G. W. Martin 1 (100-ac), W. F. C. Butler sur, elev 429 ft, Austin chalk 1940-2200 ft, sd 2240 ft.

LAMAR COUNTY—L. W. Dennis et al's W. C. Clark 1, G. H. Hall sur, A-402, 3 mi ne Reno, dk. L. W. Dennis, Tr. et al's Effie Lawrence 1, T. B. Roundtree sur, 2 mi ne Blossom, lcn. Bruce Bros. et al's Chas. Price 1, Wm. Nelson sur, 1 mi w Trout, sd 336 ft. North Texas Synd's Alice Wright 1 (163.3-ac), Alfred Moore sur, 2 mi ne Caviness, set cas, td 2579 ft. Texas Gulf Pet. Co.'s A. L. Darnell 1 (40-ac), H. L. Williams sur, 4 mi ne Paris, elev 544 ft, Austin chalk 816-864 ft, top Woodbine 948 ft, top Red Beds 1002 ft, dr 2605 ft.

LEON COUNTY—Tide Water & Texas Seaboard's M. K. Carter 1-A (458.13-ac), Simon Sanchez sur No. 7, Long Lake area, elev 246 ft, dr 2210 ft.

LIMESTONE COUNTY—David J. Crawford et al's Mary Ward 1 (28-ac), Pedro Varella sur, cored sand so&g 2980-85 ft, coring 2990 ft.

NAVARRO COUNTY—L. N. McCulloch et al's Berry Bros. 1, (35-ac), W. W. Moss sur, Austin chalk 751-1060 ft, sd 1490 ft.

RAINS COUNTY—W. A. Allen, Geo. W. McClung & Harry B. Baker's Ida Bullard 1 (75-ac), Nancy Brantley sur, 2 mi sw Emory, rig; S. P. Cain 1 (98½-ac), J. Harges sur, A-109, 1 mi nw Emory, lcn; Mrs. Olin Giles 1 (77-ac), Thos. Cunningham sur, 6½ mi sw Emory, dk.

RED RIVER COUNTY—W. G. Clark & R. H. Chew's J. F. Brooks 1 (321-ac), Ben Gooch sur, ½ mi s Bagswell, elev 484 ft, dk. Don F. Cleary & Bros.' O. Mowery 1 (20-ac), J. Bowerman sur, 10 mi n Clarksville, cored os 1131-46 ft in Trinity series, sd cem 7-in cas 1120 ft. Garson & Seigel's W. T. Morris 1 (351-ac), Joseph Guest sur, 1 mi s Detroit, dr 650 ft.

RUSK COUNTY — J. W. Shipman et al's Citizens Nat'l Bank (L. T. Burton) 1-A (125-ac), J. J. Y'Barbo sur, 4 mi ne Henderson, elev 432 ft, dr 1130 ft.

UPSHUR COUNTY—Ed. S. Holmans et al's G. J. Daniels 1 (47½-ac), Ira Stephenson sur, 3 mi s Prichett, dr 2920 ft.

VAN ZANDT COUNTY—J. H. "Bill" Gilliam et al's E. S. Marten 1 (416-ac), Jas. Hamilton sur A-407, 3 mi ne Wills Point, lcn. American Liberty Oil Co.-Pioneer Exploration Co.'s E. N. Sides 1 (23-ac), J. Denman sur, 8 mi sw Canton, elev 541 ft, Pecan chalk 2652-2813 ft, top Austin (broken) 3540 ft, top hard chalk 3590 ft, sd 3979 ft.

WOOD COUNTY—Westgate O&G Co.'s West Lake Club 1 (428.6-ac), M. Rentararez sur, 14 mi e of Mineola, sp.

HARRISON COUNTY — Adams & Bird's Washburn Lbr. Co. 1, F. Jordan sur, dk and mir. Hanover et al's Buchanan 1, W. M. McIlvain sur, elev 353 ft, owdd, td 3706 ft.

PANOLA COUNTY—Steve Blazek's Robt. Johnson 1, J. Johnson sur, 6⅝ in csg 1960 ft, making oil by heads, td 1983 ft. Modisett & Jolly's Loyd Thompson 1, D. McDonald sur, rur. McAneny & Flinchbaugh's G. H. McCormick 1, Jas. P. McAdams sur, elev 381 ft, base Pecan Gap 2433 ft, 7-in csg 2654 ft, sd cur titles, after reported so, td 2674 ft.

SHELBY COUNTY—C. A. Parker et al's W. C. Windham 1, A. H. English sur, dk. J. A. Reynolds' O. H. Polley 1, Wm. Whistler sur, mim. H. A. Stevinger's Pickering Lbr Co. 1, C. F. Henry sur (formerly carried G. H. Patterson sur), rur.

TEXAS GULF COAST

BRAZORIA COUNTY—Gulf's Wilkes & Smith 1, Lockridge prospect, J. W. Hall sur, dr lime 4355 ft. R. R. Osburn's J. L. Jones 1, 4 mi w of West Columbia, J. Thompson sur, sd 20 ft.

CHAMBERS COUNTY—Anderson & Johnson's White 1, 2 mi n of Anahuac field, Magahey sur, dr shale 4399 ft. Salt Dome Oil Co. and Gem Oil Co.'s Lawrence 1, Cotton Lake prospect, J. Grant sur, running electrical logging device at 6960 ft.

FORT BEND COUNTY—Bunte Oil & Gas Co.'s A. P. George 1, Smithers Lake prospect, J. Jones sur, no report. Texas Gulf Producing Co.'s K. B. Winston 1, North Richmond prospect, S. Isaacs sur, dr shale 7378 ft.

GALVESTON COUNTY — Sun's J. E. Hughes 1, Green Lake prospect, W. C. M. Baker sur, spudded.

HARRIS COUNTY—Cockburn Oil Corp.'s Houston Ship Channel 1, Battle Ground prospect, A. McCormick sur, sd 5785 ft. H. C. Hill's Swilley 1, Sheldon prospect, Victor Blanco sur, building roadway. E. E. Young's Griffith 1, w of Humble, A. R. Bodeman sur, dr shale 4344 ft.

JEFFERSON COUNTY—Humble Oil & Refining Co.'s Miller 1, Amelia prospect, A. Savery sur, dr shale 2990 ft. Same operator's White 1, Jefferson Island prospect, T.&N.O. sur, section 370, dr shale 5805 ft. Sun's Broussard 1, Labelle prospect, B. Blachmon sur, killing to drill deeper. Bottom of the hole is 8282 ft. Tatum & Pendigras's Owens 1, n of Port Arthur, Port Arthur Land Subdivision, dr shale 1020 ft.

MATAGORDA COUNTY — Continental Oil Co.'s Feife 1, Cistrus Grove, J. S. Chriswell sur, dr shale 7170 ft. Hamman Exploration Co.'s Cleveland 1, se of Bay City, E. Hall sur, dr shale 5439 ft. Helmerick & Payne's Hawkins 1, Sheppard Mott, D. A. McCarthy sur, 6431 ft shale. H. M. Smith Corp.'s Wadsworth 1, Sheppard Mott, S. E. Fisher sur, making oil by heads from 8842 ft.

MONTGOMERY COUNTY— Wm. Thompson et al's Scott 1, Ducas prospect, F. Wheeler sur, set 7-in at 3674 ft, woc.

ORANGE COUNTY—Blue Line Oil Co.'s Peet 1, 8 mi n of Orange, R. Ballew sur, dr shale 2015 ft.

SAN JACINTO COUNTY—Darby-Jones-McBee Drilling Co.'s J. R. Bennett 1-A, D. Beer sur, sd 2500 ft.

WHARTON COUNTY—Pure's Paige 1, Blue Basin prospect, J. Pirie sur, coring sand 6120 ft. Sterling Oil & Refining Co.'s Janek 1, East Bernard prospect, J. Scott sur, setting up separator at 7875 ft. Texas Co.'s Pierce C-1, Five Corners prospect, J. Caldwell sur, making a test at 6170 ft.

SOUTH LOUISIANA

CALCASIEU PARISH—Wheeler Oil Co.'s School Land 1, s of Iowa, sec 16-9s-7w, dr shale 7200 ft.

CAMERON PARISH—Magnolia's Broussard 1, Willow Lake prospect, sec 13-12s-9w, dr shale 9395 ft. Pan American Prod. Co.'s Lutcher Moore 1, Mud Lake prospect, sec 14s-11w, building roadway.

IBERIA PARISH—Texas Co.'s State Lake Fausse Point 1, s flank of dome, sec 35-11s-8e, fsh 6400 ft.

JEFFERSON DAVIS PARISH — J. K. Lewis's Lock Moore 1, Heckner prospect, sec 32-7s-6w, stuck drill stem at 460 ft. Shell's Lacassine Irrigation Co. 1, Hayes prospect, sec 20-11s-5w, dr sand 6385 ft.

PLAQUEMINES PARISH—Southern Sulphur Co.'s Manhatten Fruit Co. 1, Venice dome, sec 26-21s-30e, dr shale 3040 ft. Wrather Oil Co.'s Hero 1, near Oakville, sec 72-14s-24e, sd 5343 ft.

ST. MARTIN PARISH—Texas Co.'s State

Lake Mengouli 1, 3 mi n of Bayou Chene, sec 10-9s-9e, dr shale 5709 ft. Tide Water's Smede 1, St. Martinsville prospect, sec 57-11s-6e, making an estimated 100 barrels of 31 gravity oil from 5582 ft.

ST. MARY PARISH—Herbon Oil Co.'s Roane 1, w of Charenton, sec 40-13s-9e, dr sand 5052 ft.

ST. TAMMANY PARISH—Danciger Oil & Refining Co.'s Holdsworth 1, Slidell prospect, sec 26-9s-14e, dr shale 1515 ft.

TERREBONNE PARISH — Shell's Realty Co. 1, Houma Townsite prospect, sec 103-17s-17e, dr surface clay at 72 ft.

NORTH LOUISIANA

BOSSIER PARISH — Ark.-La. Gas Co.'s Werner B-1, 7-17n-11w, rur. Bossier O&G Co.'s Sherrell 3, se se 13-19n-12w, sd 2200 ft. McKinney & Humphrey's Burkley 1, ne sw 36-21n-13w, mim. V. M. Miller et al's Curis Plantations 1, se se 19-17n-12w, abn hole at 865 ft, skidding over for new hole to go to 4500 ft. Producers O&G Co.'s Pettit 1, ne sw 17-17n-11w, elev 198 ft, dr 3435 ft, hd lime; E. C. Edwards 1, se sw 27-18n-11w, installing heavier rig, td 868 ft. Triangle Drlg. Co.'s Skannal Unit 1, ne sw ne 13-17n-12w, spd 20-in csg 104 ft, 13 3/8 in csg 749 ft, wocs.

CADDO PARISH—W. F. Hyde's Thigpen-Herold 1, nw ne se 5-15n-15w, elev 281.8 ft., top Nacatosh 1143 ft, top chalk 1529 ft, arr deepen 1740 ft. Tystan, Inc.'s Jolly 1, 22-22n-15w, top red beds 2343 ft, dr 2802 ft bro lime and sand.

CALDWELL PARISH—Critchett & Wood's Kyle 1, 18-11n-3e, whipstock at 1690 ft, old td 2228 ft. A. R. Taylor et al's Hawkins 1, 42-14n-4e, lcn.

CATAHOULA PARISH—McIntyre et al's Tensas Delta Lbr. Co. 1, sw nw se 18-10n-7e, top Cane River 2500 ft, arr core for ds test 2820 ft, possible top Wilcox. Phillippi et al's La. Cent. Lbr. Co. 2, nw nw 41-9n-6e, dk.

CLAIBORNE PARISH—E. T. Oakes et al's Patton Est. 1, ne ne 1-20n-5w, elev 357.3 ft, top red beds 3460 ft, top stringer anhydrite 3777 ft, dr 3990 ft anhydrite. Ryan Oil Corp.'s Gladney 1, ne sw 27-20n-7w, elev 343 ft, 10-in csg 718 ft, Annona chalk 2045 to 2637 ft, top red beds 3580 ft, dr 3625 ft, red sandy shale. Sugar Creek Synd. et al's Addis Darrett 2, 31-20n-5w, rur (deep test).

DE SOTO PARISH—E. B. Bird, Tr.'s W. H. Bagley 1, ne sw 20-14n-16w, lcn. Cardinal Oil Co.'s A. D. Johns 1, se nw 20-14n-16w, sd after test, td 2649 ft. Century O&D Co.'s D. Bailey 1, ne sw 25-11n-14w, dr 2990 ft, lime. Ed Saffold et al's Thigpen 1, sw ne 33-13n-13w, arr test, td 1936 ft. M. L. Stephens et al's Alston 1, ne sw 11-11n-16w, wosr, td 2055 ft. C. T. Ruffin's Elmo P. Lee 2, nw sw 3-13n-14w, 6-in csg 2827 ft, 700 ft oih, td 2841 ft.

JACKSON PARISH—Caldwell Land & Timber Co.'s Burroughs Est. 1, ne nw 1-17n-1w, dk.

LINCOLN PARISH — Ark. La. Gas Co.'s Fowler 1, nw sw se 10-17n-4w, 7-in csg 5270 ft, arr dr plug and test, td 5303 ft. Caldwell Land & Timber Co.'s Luther Hammonds 1 nw ne nw 30-18n-1w, dk.

MADISON PARISH — Southern Land & Expl. Co.'s Deltic Inv. Co. 1, nw nw 1-17n-12e, set 6 5/8 in csg 2100 ft after reported sg top Monroe gas rock, td 2206 ft.

NATCHITOCHES PARISH—Roy Raines et al's Fee 1, sw sw 28-9n-10w, fsg drill pipe, td 4303 ft. Washita sand. Union Pet. Co.'s De-Blieux 1, ne nw 83-10n-7w, coring for base of Wilcox below 1870 ft.

OUACHITA PARISH — American Liberty Oil Co.'s Golson 1, 5½ in csg 5200 ft, sd cur titles, td 5381 ft black shale. J. B. Williams et al's J. C. Lipscomb 1, se nw 7-16n-4e, rur. Gus Primos et al's Arent 1, cent 8-17n-4e, lcn.

RAPIDES PARISH — Amerada Pet. Co.'s Weil 1, 53-s-2e, 7-in csg 6015 ft, coring 6753 ft shale and sand.

SABINE PARISH — A. H. Tarver et al's Baker 1, 36-8n-12w, co to deepen, td 4127 ft.

TENSAS PARISH—H. M. Jones' Hankins 1, 30-12n-10e, arr set surf cas.

WEBSTER PARISH—Bennett et al's Fulbright 1, ne ne 1-18n-10w, hole clean, sd 2350 ft. Lyons & Neeley's Lee 1, 1-21n-9w, rur. Red Hawk Oil Co.'s Mayfield 1, 9-23n-9w, rur.

WINN PARISH—P. E. Parsons et al's Tremont Lbr. Co. 1, nw sw 10-12n-2w, top Cane River 960 ft, arr deepen 1240 ft.

ARKANSAS

ASHLEY COUNTY—Benedum & Trees Oil Co.'s Holmes 1, ne sw 4-17-5w, elev 183 ft, top Cretaceous 2919 ft, dry in ds test 3491-3505 ft, core 3742 ft, hd packed sand. Texas-Seaboard Oil Co.'s Bynum Cooperage 1, se sw nw 34-17s-4w, dry abn 2465 ft.

COLUMBIA COUNTY—Southern States Gas Co.'s Pine Woods Lbr. Co. 1, ne nw 10-20-22, elev 231 ft, top Nacatosh 1846 ft, arr deepen, td 1904 ft.

DALLAS COUNTY—McCall & Kelly's R. Owen 1, ne sw 26-10-16, sd 2232 ft.

HEMPSTEAD COUNTY — Geo. L. Glass' May B. O'Brien 1, ne sw 32-12s-32w, dk and mir. F. W. Martin's Lafferty 2, se nw 17-14-27, rur.

LA FAYETTE COUNTY—Earl F. Fox's Coleman 2, ne ne 30-16-24, 10-in csg 135 ft. Leach et al's Bodcaw Lbr. Co. 1, 20-16-23, rur. Joe Modisett et al's Frost Lbr. Co. 1, sw sw 29-19-24, elev 261 ft, top Arkadelphia 1653 ft, 9 5/8 in csg 2140 ft, top anhydrite 4924 ft, core anhydrite 4930 ft. Transportation Pet. Co.'s Cochrane 1, ne se 26-19-23, Annona chalk 2337-2690 ft, sd 3290 ft shale. S. H. Riggs et al's DuBose 1, sw nw 35-15-24, cemented 6-in csg 2800 ft, claimed so 28-14-22, ft, td 2822 ft.

MILLER COUNTY—O. K. Allen & Jas. A. Noe's Embree Hrs. 1, se sw sw 9-20-28, mim. E. B. Bird, Tr.'s Commercial Nat. Bank 1, 30-19-27, rebldg dk. King Oil Corp.'s G. W. Crank 1, sw ne 19-16-25, top Nacatosh 1950 ft, Annona chalk 2365-2735 ft, dr 3050 ft, sandy lime and shale. C. W. Hays et al's State of Ark. 1, sw se ne 31-15-25, dry abn 3010 ft. C. V. Lenz's A. Dean 1, nw se 24-15-26, dr 2453 ft. McAlester Fuel Co.'s Cook 1, 18-20-27, mim. L. H. Mahan et al's Miller L&T Co. 1, sw se 29-18-27, 10-in csg 150 ft.

MONROE COUNTY — Beaver Pet. Co.'s Stinson 1, se sw 27-4-2, tested sw, ds test 2225-2240 ft, sd 2240 ft. Monroe Oil Co., Inc.'s Harvey 1, se se 19-1-1, dr 2410 ft.

OUACHITA COUNTY—Benedum & Trees Oil Co.'s Brigham 1, ne sw 29-14-19, elev 340 ft. top red beds 2484 ft, sd repr rig 3754 ft. Snow-Black Pet. Co.'s Jerry Bedford 2, sw sw 32-11-18, setting surf csg. W. B. Street, Tr.'s Wrath & Carter 1, sw ne 35-13-18, spd.

POINSETT COUNTY—Rockwell Dev. Co.'s Fee 1, 13-11n-3e, trying to stop heaving hole 2112 ft.

UNION COUNTY—Ark-Southern Oil Co.'s Laney 1, 32-19-16, 10-in csg 176 ft. Marine Oil Co.'s W. C. Tullis 1, se nw 12-19-12, 10-in csg 150 ft, dr 1532 ft. Proetz & Richardson's Calion Lbr. Co. 1, nw se 10-16-14, dry abn 3511 ft.

MICHIGAN

ALLEGAN COUNTY—Heath Oil Co.'s Terpstra 1, 3n-14w-34, r 2200 ft. Gerrit Vander Least's Berrows 1, 4n-14w-26, dr 350 ft.

ARENAC COUNTY—Deep River Oil Co.'s Stoka 1, 19n-4e-27, sd 2700 ft.

BAY COUNTY—M. C. Fordyce's Suszko 1, 18n-3e-11, Dundee 2822, water 2987 ft, pb to L. Traverse 2029-73, to acidize.

CLARE COUNTY—Sun Oil Co.'s Woodward 1, 19n-3w-24, sp. Fred Siegle's Siegle 1, 17n-5w-26, rig.

CLINTON COUNTY—John F. Martin's Scott 1, 8n-2w-22, set 5-in on Dundee lime, top ? Rex Oil Co.'s Parker 1, 7n-1w-32, lcn.

ISABELLA COUNTY—Pure Oil Co., McClintic 1, 14n-6w-15, dr 450 ft.

GENESEE COUNTY—Rowmor Oil Co.'s Gillespie 1, 5n-5e-3, br.

GLADWIN COUNTY — United Producer's Nettleton 1, 17n-2e-24, dr 3500 ft.

GRATIOT COUNTY—Miller Bros.' Ryan 1, 9n-1w-32, dr 1300 ft. Jackson-Myer's Garner 1, 9n-4w-10, cased 3055 ft, dr 3100 ft. Charles Bell's Velie 1, 12n-1w-13, dr 2000 ft. Chas. Weller's Saxon 1, 9n-3w-28, sp. T. F. Caldwell's Brannon 1, 9n-4w-6, sp.

IONIA COUNTY—Gordon Oil Co.'s Muri Bank 1, 8n-5w-30, dr 2700 ft. Greer and Meal's Welch 1, 8n-6w-33, dr 1300 ft. A. F. Holliday's Abbey 1, 13n-7w-36, dr 1800 ft.

KENT COUNTY—Rex Oil Co.'s Johnson 1, 10n-12w-36, mim. National Mineral's Lewis 1, 10n-11w-5, dr 2780 ft. James Barton's Smith 1, 10n-10w-29, sp.

MIDLAND COUNTY — K. K. Leibrand's State 1, 15n-2e-32, testing Berea sand oil show at 2496 ft.

NEWAYGO COUNTY—E. M. Neff's Sippley 1, 16n-13w-cr sec 26-27, lcn.

MONTCALM COUNTY — Frank Asam's Pakes 1, 10n-6w-7, sd 1400 ft. Jetter Oil Co.'s Long 1, 9n-6w-1, sd 3170 ft. Rex Oil Co.'s Newland 1, 12n-8w-2, dr 3300 ft. Sidney-Montcalm Oil Co.'s Madison 1, 10n-7w, nw nw sw-33, rig.

SAGINAW COUNTY—King Drilling Co.'s Kube 1, 12n-2e-31, testing os 2738 ft.

TUSCOLA COUNTY—L. B. Ayer's Kindler 1, 15n-7e-24, lcn.

NEW MEXICO

EDDY COUNTY—Geo. F. Getty Oil Co.'s Andrew Dooley 7, swc nw 24-20s-29e, elev 3309 ft, coring black lime 6620 ft.

LEA COUNTY—Amerada's M. J. Byrd 1, c nw nw 12-20s-36e, Monument area, lcn. Barnsdall Oil Co.'s A. Cooper 1, c ne ne 12-20s-36e, Monument area, elev 3567 ft, top anhydrite 935 ft, gauged 110 bbls oil hourly via ¾-in choke on tub, natural flow, complete, td 3890 ft;

Even to NAILS and GALVANIZED IRON....

You could keep a slice of Texas dry with the galvanized iron we stock—and when our nails drop below a thousand kegs we wire for another car. Of course we know that most of you fellows think of a lumber yard when you want corrugated iron or nails, but we've always suspected that one way to get business is to ask for it. If it's used in drilling or producing an oil well, PELCO has it.

PELICAN WELL TOOL & SUPPLY COMPANY

. . . . SHREVEPORT LOUISIANA

TRADE PELCO MARK

Lake Charles—Houma—Converse
Many—Monroe—Kilgore
Greggton

Cooper 2, c sw nw 7-19s-37e, mim. Gypsy Oil Co.'s B. V. Culp 2, c sw nw 19-19s-37e, Monument area, elev 3709 ft, testing, td 3985 ft; State-Graham-South 1, c se se 2-20s-36e, elev 3579 ft, dr 3555 ft; Steve B. Taylor 1, c se ne 24-18s-38e, 2¾ mi ne Hobbs field, elev 3613 ft, top anhydrite 1950 ft, top Bowers sand 3605 ft, tested dry at 3619 ft, dr lime 4110 ft. Jeffers Oil Co.'s Britt-Conoco 1, c se nw 7-20s-37e, Monument area, elev 3554 ft, top anhydrite 970 ft, salt series 1115-2270 ft, flowed 2000 bbls oil and 2,000,000 ft gas daily on dst 3820-81 ft, cem 6⅝-in cas 3803 ft. Harry Leonard et al's C. W. Justis 1, swc nw nw 20-25s-37e, elev 3067 ft, pb fr 3501 to 2970 ft, pull cas to complete as gasser. Maljamar Oil Corp.'s Baish 5, c sw ne 21-17s-32e, Maljamar area, elev 4036 ft, dr 265 ft. N. G. Penrose & Rowan Drlg. Co.'s Will Cary-Humble 1, c nw sw 22-22s-37e, elev 3353 ft, dr 900 ft. Phillips Pet. Co.'s State 1, c ne sw 19-19s-37e, Monument area, rig. Phillips Pet. Co.-Pure Oil Co.'s Woolworth 1, lse 2, c ne nw 33-24s-37e, 3½ mi e of Cooper field, elev 3265 ft, top brown lime 2772 ft, pb fr 4200 to 3540 ft for nitro shot; Woolworth 1, lse 4, c se sw 8-25s-37e, elev 3131 ft, got show o&g on dst 3377-3425 ft, cem 7-in csg 3150 ft. Repollo Oil Co.'s M. J. Byrd 1, nec nw ne 11-20s-36e, Monument area, elev 3585 ft, dr 3785 ft. Republic Prod. Co.'s Selby-Maveety 1, c se sw 35-19s-36e, elev 3614 ft, run tubing to complete, td 3940 ft. Shell's State 1-C, c ne ne 24-19s-36e, elev 3714 ft, dr 2480 ft. Skelly Oil Co. et al's B. F. Harrison 1, c nw sw 5-23s-37e, elev 3352 ft, top anhydrite 1190 ft, top salt 1280 ft, stdz, td in lime 2722 ft. Skelly Oil Co.'s State-Monument 1, c se se 15-19s-36e, elev 3722 ft, cem 9⅝-in cas 2550 ft. Sun Oil Co.'s W. B. Maveety 3, c se ne 35-19s-36e, elev 3611 ft, top anhydrite 1040 ft, used 3000 gals acid, td 3945 ft, negative results, re-treated with 5000 gals acid, swabs 20 bbls hourly. Superior Oil Co. (Cal.'s) State 2-A, c nw ne 2-20s-36e, elev 3603 ft, used 4000 and 6000 gals acid, td 3935 ft, flowed 100 bbls hourly via cas, sd to set packer account high gas-oil ratio. The Texas Co.'s State 1-E, c sw sw 1-20s-36e, elev 3577 ft, dr 2910 ft; J. M. Dean-Pure 1, c se sw 28-22s-36e, rig; State 1-F, c ne se 24-19s-36e, dr 2700 ft; H. T. Mattern 1, c nw sw 20-19s-37e, elev 3647 ft, mim. Sam K. Vierson & Brown's W. D. Robinson 1, c nw se 14-11s-32e, elev 4355 ft, dr 2510 ft. Tide Water's State 1, sec n½ 14-18s-37e, nw Hobbs outpost, elev 3689 ft, pb fr 4368 to 3860 ft, swabbed dry and sdo.

COLORADO

ADAMS COUNTY—Riddle Petroleum Co., Baxter 1-C, sw 2-3s-6e, set 20-in surface pipe at 40 ft, spd.

ARCHULETA COUNTY—Wm. E. Hughes Estate, Fee 3, nw nw se 25-33n-2e, spd at 245 ft.

BOULDER COUNTY—Leslie R. Steele et al Maxwell 1, sw ne nw 24-1n-71w, dr 2230 ft.

ELBERT COUNTY—Ramsey Petroleum Co., Union Pacific 1, ru, moving in tools.

JACKSON COUNTY—Continental Oil Co., Hoye 3, nwc ne 34-9n-78w, testing production in second Dakota, 5079-5100 ft, td 5115 ft.

JEFFERSON COUNTY—Ruby Hill Oil Co., Braden 1, se se 24-4s-69w, redr 4165 ft.

LINCOLN COUNTY—Consolidated Smelting and Metals Corporation, Hancock 1, ne sw 7-17s-52w, td 1780 ft, repairing rig.

ROUTT COUNTY—Mid-Colorado Petroleum Co., Ohmholt 1, nw ne 29-4n-87w, testing so in Lakota 2780 ft.

MORGAN COUNTY—Swisher et al Lunt 1, sw sw sw 3-5n-60w, dr 1208 ft.

First Choice:

The Oil Weekly

The news features and engineering articles in THE OIL WEEKLY are regularly read by more subscribers in the Producing and Pipe Line Division of the industry than any other oil paper. It is First Choice among a majority of the Industry's leaders throughout the world.

"read it first in The Oil Weekly"

PARK COUNTY—South Park Oil Co., State 1, se se sw 16-11s-17w, ur 6⅝ in csg to set on bottom at 3658 ft.

PROWERS COUNTY—Trojan Oil & Gas Co. Lotus 1, nw ne ne 15-23s-46w, ur 4¼ in csg to set on bottom at 5800 ft.

NEW MEXICO

BERNALILLO COUNTY — Norins Realty Co. Gallegas Grant 1, cnw nw 19-11n-4e, rur.

EDDY COUNTY—Getty Oil Co., Dooley 7, sw nw 24-20s-29e, coring black lime at 6615 ft.

SANDOVAL COUNTY — Continental Oil Co. L Bar Cattle Co. 1, se 2-13n-4w, sd 4602 ft.

SAN MIGUEL COUNTY — Starr-Kennedy Oil Co., Adams 3, nw 25-17n-16e, sd 5100 ft.

TORRENCE COUNTY—48 Petroleum Co., Greenfield 1, cnw sw 17-9-8, sd 925 ft.

VALENCIA COUNTY — Western Natural Resources Corporation De Chavez 2, sw ne 5-6n-1e, sd 6100 ft. Gravity Petroleum Co., Jones 1, 30-11n-9w, sd at 105 ft. Pres-Sel Development Co., Morris 1, ne se 30-12n-10w, sd 600 ft.

WYOMING

ALBANY COUNTY—Ohio Oil Co., Emery 1, cse ne 30-15n-75w, has water in the Tensleep at 2445 ft and will dr a few ft deeper and probably abdn. Shirley-Wyoming Oil Co., Quealy 1, nw nw ne 21-26n-80w, dr 821 ft.

BIG HORN COUNTY—J. W. Bales Parker 1, csw sw 23-49n-89w, dr 600 ft and carrying 5 3/16 in csg. J. H. Shafer 1, sw sw sw 8-49n-91w, ur 6⅝ in cas to bottom at 1350 ft.

CARBON COUNTY — General Petroleum Corporation of California, Whitford 1, sw se ne 24-20n-34w, running 8⅝ in csg to 5500 ft.

PARK COUNTY—Geo. T. Beck's 1, nw nw 27-53n-101w, dr 1640 ft and fighting caving formations.

SHERIDAN COUNTY—Sheridan Syndicate, Allison 1-A, sw sw se 15-55n-85w, sd 2865 ft.

WESTON COUNTY—Conway Oil Corporation 1, se se nw 7-41n-60w, fsg 2080 ft.

MONTANA

CARBON COUNTY—Bailey Round Butte Oil Co. 1, ne se 3-6w-22e, dr 1475 ft (corrected depth).

FERGUS COUNTY—Judith Operating Co., Government 1, csw sw 26-22n-17e, dr 700 ft. Emmons et al 1, ne ne 6-20n-17e, dr 2240 ft and carrying 5 3/16 in csg. Rolland et al's 1, ne nw nw 13-17n-23e, dr 625 ft.

GALLATIN COUNTY—Montana Gas & Petroleum Co., Tice 1, ne ne ne 28-1n-2w, dr 2576 ft.

ROSEBUD COUNTY—Birney Oil & Gas Co. 1, sw sw sw 6-6s-42e, dr 579 ft with 15½ in csg set at 305 ft.

STILLWATER COUNTY—Continental Oil Co., Parker 1, se sw 25-5s-17e, dr 3260 ft.

ALABAMA

BALDWIN COUNTY—Danciger O&R Co.'s U. S. Government 2, Fort Morgan reservation, surf csg cemtd 223 ft.

LAMAR COUNTY — DeSoto O&G Co.'s Gardner 1, nw nw 22-15-16, core white lime 4870 ft.

MOBILE COUNTY—J. C. Prine's King 1, n½ ne 4-1n-4w, co td 3130 ft.

FLORIDA

LAKE COUNTY — Oil Dev. Co. of Fla.'s Gulf Expl. Co. 1, se se 17-24-25e, elev 120 ft, arr test 2258 ft, limestone and shale.

PINELLAS COUNTY— Dr. Edw. A. Hill et al's W. J. Meyers 1, ne ne 2-27s-25e, dk.

POLK COUNTY—Dr. Edw. A. Hill et al's Polk Co. Lbr. Co. 1, nw ne 32-25s-25e, dk.

MISSISSIPPI

FRANKLIN COUNTY—Fred E. Courson et al's Homochitto Lbr. Co. 1, sw se sw 31-6n-2e, dr 2505 ft.

GEORGE COUNTY—United Gas Pub. Serv. Co.'s Williams Unit 1, sw sw 6-1s-5w, dr 6025 ft.

LAFAYETTE COUNTY—W. L. Stewart et al's Russell 1, ne sw sw 9-10s-1w, top Paleozoic 1920 ft, sd 2446 ft hd formation.

LAUDERDALE COUNTY — Dalton Dev. Co.'s Bounds 1, ne se 3-6n-15e, co to test at 1525 ft.

WARREN COUNTY—Harry W. Elliott's R. L. Parker 2, 14-14n-1e, sl, td 1690 ft. R. L. Parker 3, 14-14n-1e, dr 2075 ft.

WASHINGTON COUNTY — Perkins & White's Mary B. Lee 1, 1-14n-8w, dr 2210 ft.

WINSTON COUNTY—Jack Vale's Moody 1, sw nw sw 3-13n-14e, elev 540 ft 6⅝ in csg 2216 ft preparing to test td 2230 ft.

A complete line of Thoroughly Reconditioned Drilling Equipment Always in Stock.

•

Call or write for prices.

NEAL LUCEY COMPANY
2107 QUITMAN ST.-PRESTON 9614
HOUSTON, TEXAS

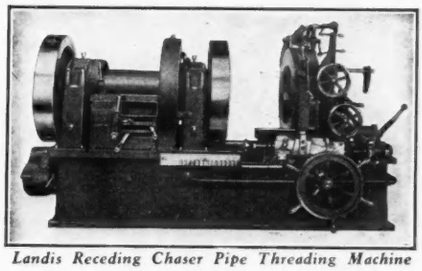
NORMAN RICKER, Ph.D.
Consulting Mathematical Physicist
MATHEMATICAL ANALYSES OF PROBLEMS
in
ENGINEERING AND APPLIED GEOPHYSICS
2115 Wentworth Ave. Phone Hadley 8510
HOUSTON, TEXAS

THE FORT WORTH LABORATORIES
Field Gas Testing. Analysis of oil field brines, gas, minerals and oil. Sell Thermometers, Hydrometers and Laboratory Glassware.
F. B. Porter, B.S., Ch. E., Pres.
R. H. Fash, B.S., Vice-President
828½ Monroe St., Ft. Worth, Tex.

PATENTS
Patents, Trade Marks, Copyrights and Infringement Litigation
HARDWAY & CATHEY
428-29-30 Bankers Mortgage Bldg.
Phone Fairfax 8232 Houston, Texas

JACK A. SCHLEY
Patent Attorney
(Established 1902)
PATENTS—INFRINGEMENTS—OPINIONS
1807-11 TOWER PETROLEUM BLDG.—DALLAS
805 2ND. NATIONAL BANK BLDG.—HOUSTON
San Antonio — Washington, D. C.

D. S. MAIR
MACHINERY CORPORATION



Landis Receding Chaser Pipe Threading Machine

COMPLETE LINES
Machine Tools—Metal Working Machinery—Bolt and Pipe Threading Machines Electric Arc, Spot and Butt Welders Hand Power and Electric Traveling Cranes—Monorail and Material Handling Equipment—Foundry Equipment Forge Shop Equipment.

HOUSTON, TEXAS
505 Esperson Bldg. Telephone Fairfax 1466
STANLEY MAIR

DALLAS, TEXAS
10th Floor Santa Fe Bldg. Telephone 7-2874
CHARLIE HARTER

Catalogs . . . Bulletins

Shut Off Valves and Flange Unions

Kerotest Manufacturing Company, 2525 Liberty Avenue, Pittsburgh, Pa., has issued two informative bulletins. Bulletin 118 describes its newest type Gauge Shut-Off Valves made of drop forged, heat-treated alloy steel. Bulletin 116 describes the Kerotest Ring-Joint Flange Unions made of heat-treated steel forgings. Copies of these new bulletins, just off the press, are available by addressing this publication or the manufacturer direct.

Valves

Kerotest Manufacturing Company, Pittsburgh, recently issued three new bulletins covering a complete line of valves. Bulletin 120 covers six types of valves in 40 separate sizes up to the 16-inch heavy duty, Type S, 6000-pound test drilling valve. Bulletin 119 gives all necessary information for any flow line valve requirement ranging up to the extra heavy 6000-pound test type, and Bulletin 117 contains an interesting description of the Kerotest Throttle Valve for drilling engines and slush pumps.

Roller Bearing Units

Link-Belt Company, has issued booklet No. 1494, describing the Shafer Series 400 Self-Aligning Roller Bearing Units. It will be mailed upon request.

Welding

The Lincoln Electric Company, Cleveland, Ohio, has ready for distribution an attractive 42-page bulletin on "Automatic Arc Welding by the Electronic Tornado."

Centrifugal Pumps

Lawrence Pump & Engine Company, Lawrence, Massachusetts, has issued an eight-page bulletin describing its "Electropump," a compact centrifugal pumping unit for small and moderate capacities.

Drilling Unit

Oil Well Supply Company, Dallas, Texas, recently issued bulletin No. 145, which describes its new type, "direct drive to the rotary" drilling unit. The bulletin is ready for distribution.

Potentiometer Controllers

The Foxboro Company, Foxboro, Massachusetts, has announced the recent publication of a new 20-page bulletin, No. 202, covering its complete line of potentiometer and resistance thermometer controllers.

Lathes

South Bend Lathe Works, South Bend, Indiana, has announced publication of a new two-color, 24-page catalog describing the new nine-inch "Workshop" precision lathe manufactured by the company. The booklet contains a variety of illustrations and data of interest to lathe users.

Handbook

Magnus Chemical Company, Garwood, New Jersey, recently issued a book that is intended to provide a ready reference and guide for the use of those directly interested in or concerned with metal cleaning. The book is called "The Metal Cleaning Handbook."

Only a limited number of copies are available. A request from an inquirer on a business letterhead, giving the official title or position, brings a copy. To all other, copies are sent upon receipt of the nominal sum of $1.00 to cover the cost of publication.

Draw Works

The National Supply Company, Toledo, Ohio, recently issued bulletin No. 83 describing the Ideal Unit Type Draw Works manufactured by the company.

Go-Devils

Washington Engine and Pump Company, Washington, Pennsylvania, has ready for distribution an attractive folder describing its line of go-devils, or pipe scrapers. The folder tells of the resumption of production of "stub models," which is reminiscent of the earlier low priced go-devils.

INDEPENDENT EXPLORATION COMPANY

Seismograph Surveys

2011 Esperson Building

HOUSTON, TEXAS

AMERICAN SEISMOGRAPH COMPANY
• Geophysical Surveys •
922-924 Subway Terminal Bldg., Phone MU-4920
LOS ANGELES, CALIF.
1707 Ramsey Tower, Phone 7-7878
OKLAHOMA CITY, OKLA.

HOARD EXPLORATION COMPANY
Seismograph Surveys
623 Esperson Bldg.
Houston Texas

TAGS
for your every need

A complete line of shipping and merchandising tags—Including those for your special requirements. . . . Prompt, personal service that saves you time and money.

ALL KINDS OF BUSINESS ENVELOPES . . . We manufacture and print envelopes of every description—built to give maximum utility, security and economy.

GULF ENVELOPE CO.
617 Brooks St. P.O. Box 164
Phone Fairfax 4171

Identified by the red "Alloy" tag

EASIEST *to work with* SAFEST *to trust*

● Oil men by the thousands have always recognized the superior handling and working qualities of the Trimo design pipe wrench—as responsive as the human hand in gripping a pipe—and releasing when the job is done.

Now the strongest alloy steels known to modern metal working have added tremendous strength and increased safety to the Trimo-Alloy wrench. It is made of chrome molybdenum and manganese steel alloys — heat treated and drop forged.

At your supply house

The New

"TRIMO-ALLOY" PIPE WRENCH

TRIMO

TRIMONT MFG. CO., INC.
ROXBURY (BOSTON), MASS.

TRU·LAY *Preformed* ROTARY LINES

right or wrong . . .
rotary lines **must**
spool . . .

why not use the line that spools **right . . .**

TRU·LAY
Preformed

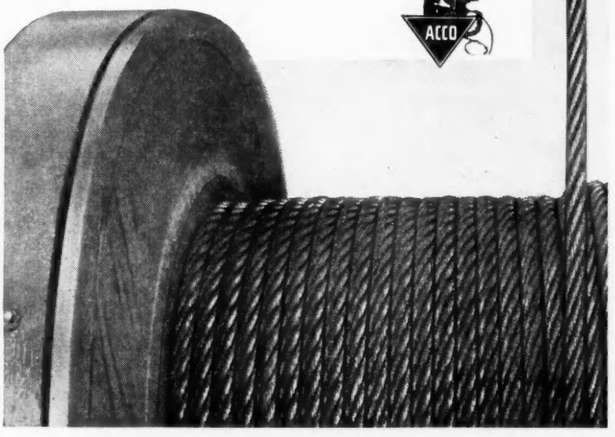
●

. . . this goes for bailing lines, too!

AMERICAN CABLE COMPANY, Inc.
Wilkes-Barre, Pennsylvania
An Associate Company of the American Chain Company, Inc.

●

Branches or Distributors in all Oil Field Centers



NEW PRODUCTS FOR THE FIELD
Machinery • Tools • Catalogs • Books

ACETYLENE GENERATOR
The Linde Air Products Company

The Linde Air Products Company, New York City, has announced a new small-size medium-pressure acetylene generator for portable or stationary service. Known as the Oxweld Type MP-6 medium pressure generator, this latest addition to the Oxweld line of generating equipment has a 50-pound carbide capacity with a double rating of 100 cubic feet of acetylene per hour. Developed for portable or stationary use with any type of oxy-acetylene cutting of welding apparatus, it meets the demand for small, rugged, low-priced generating equipment of modern design, the manufacturer claims.

A handwheel at the generator top makes it possible to control the carbide feed so that acetylene at any desired pressure up to 14 pounds per square inch may be obtained. The carbide feeding mechanism incorporates the same principle of gravity type, pressure diaphragm-control as the larger Oxweld Types MP-4 and MP-5.

No piping is exposed, and such operating mechanisms as the feed control, carbide hopper, hydraulic back pressure valve, and filter are all assembled within the dome-shaped top of the generator. The dome may be tilted back if access to the interior is necessary. It has been tested and accepted by the Underwriters' Laboratories at the double rating for generating capacity. In addition, it has been listed for both stationary and portable service. The generator can be mounted on a truck for transportation from job to job.

SUCTION HOSE AND FLANGE
Goodall Rubber Company

Goodall Rubber Company, has developed a pump suction hose that incorporates a number of unique features. Among the advantages claimed by the manufacturer are a reduced weight of the suction, a full size orifice that eliminates lost space ordinarily caused by inserted nipples or flanges, a maximum flexibility commensurate with strength of the suction, and a price range comparable with that of other pump suctions.

The ends of the Goodall "Flang-Lok" pump suction hose are upset to form its own gasket. Possibility of thread leaks is eliminated, and the swivelling ends of the pump suction make possible the tightening of flange bolts without turning the hose. The flanges are made of specially constructed metal, and there is no need to buy new flanges when the hose wears out, the manufacturer claims.

TANK VALVE
Enardo Manufacturing Company

Enardo Manufacturing Company, Tulsa, Oklahoma, has announced a safety valve which affords automatic inspection every time the lid is opened and a flexable resilient gasket which eliminates the usual softening. Four types are offered. The "Cantilever" is made in both round and long types. The round type has two models, a two-inch base and a 10-inch base for water-seal tanks. The long type, with a valve and thief-hatch combination, is also made in the two-inch and 10-inch base for water-seal tanks.

Enardo Tank Valve

The tall base eliminates the necessity of installing an iron collar on water-seal tanks. The long type, has a rest for thief inside the opening, thus avoiding waste of oil and drippings on the roof. All models are made in stove-plate gray iron.

The thief-hatch opening on the round type is eight inches in diameter and on the long type is 7¾ by 17½ inches. The valve inside the lid is 5½ inches in diameter and is sufficiently large to take care of normal breathing on tanks for which it was designed. Valves are furnished for one-half ounce vacuum and a pressure of two ounces or any other specifications needed.

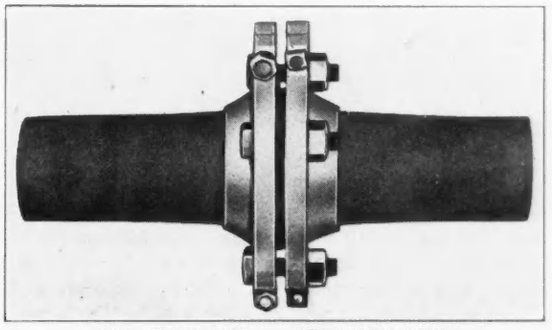
CONTROL VALVE
Consolidated Ashcroft Hancock Co.

Consolidated Ashcroft Hancock Company, Hancock Valve Division, Bridgeport, Connecticut, has announced a new type of valve that combines a micrometer setting indicator with proportional or "straight-line" flow control. It has been named the "Hancock Flocontrol Valve" and the manufacturers claim that it provides closer flow control than is possible with any other type of hand-operated valve.

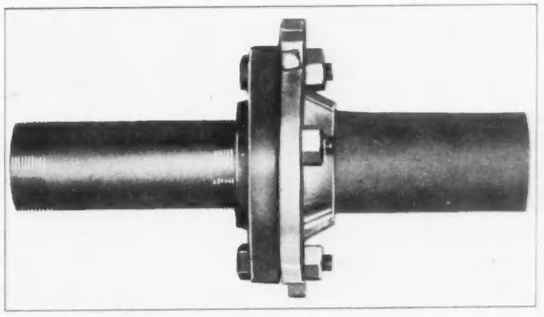
Hancock Valve

This valve has a scientifically designed type of slotted disc that insures a proportional increase or decrease in flow for each hundredth of a turn of the handwheel; while the micrometer indicator permits valve settings to be duplicated time after time. Both the valve disc and seat ring are made of hardened stainless steel and are regrindable and renewable.

Although the valve is newly developed, it is claimed they are being widely used to control the flow of steam to retorts, kettles, pasteurizers, washers, dye jigs, size baths, etc. They are used for the proportional mixing of liquids such as water treating systems, refinery oil blending lines, mixing chemicals and for controlling fuel gas to stills, heat treating and reheating furnaces, dryers, etc.



"FLANG-LOK" to "FLANG-LOK"



"FLANG-LOK" to Flanged Pipe

This Week with the Industry's EQUIPMENT SUPPLIERS

Clifford Is Los Angeles Manager for Republic Steel

George E. Clifford has been appointed district sales manager of Republic Steel Corporation in the Los Angeles, California, district, according to an announcement by N. J. Clarke, vice president in charge of sales for Republic. Mr. Clifford was appointed following the resignation of George F. Emanuels who has been in charge of Republic's Los Angeles office for several years.

Mr. Clifford attended the University of Pittsburgh, class of 1918, but left college in 1917 to join the Royal Flying Corps. He received his discharge from the corps in December, 1918. From February, 1919, until 1925 he was connected with the sales department of Atlas Powder Company at Pittsburgh, Pa. He then became district representative in Cincinnati, Ohio, for A. M. Byers Company. Two years later he was made manager of the central district for Byers and afterwards was made manager to its Pittsburgh district. He joined Republic Steel Corporation in August, 1930, as assistant manager of sales in the pipe division.

The promotion of Mr. Clifford enables him now to devote his time to the direction of sales of all Republic products in the Los Angeles territory.

M. N. Dannenbaum Appointed American Instrument Agent

American Schaeffer & Budenberg Division of Consolidated Ashcroft Hancock Company, has appointed M. N. Dannenbaum of Houston, Texas, to handle its American line of industrial instruments in the Houston trading area and territory adjacent.

Champion Returns to B. J. Headquarters

Frank Champion, general sales manager for the Oil Tool Division of Byron Jackson Company, recently returned to Los Angeles after a tour of 10 weeks to Mid-Continent and New York.

Sales are on the increase, according to Mr. Champion, and the trend towards modernizing operations indicates a good year ahead for drilling and production tools.

Three District Managers Appointed by Paint Concern

Announcement of the appointment of C. L. Welch, Lee S. Abbott and George E. Fox, as district managers, is made by A. E. Heroux, general manager of the paint division of Aluminum Industries, Inc., of Cincinnati, Ohio, manufacturer of Permite aluminum paint. The appointments became effective October 15.

Welch, whose sales experience covers the entire United States, much of it in connection with the distribution of paint, will contact the trade in Minnesota, Wisconsin, Michigan, Indiana, Illinois and Ohio. He will maintain headquarters at the Chicago branch office of the company.

Abbott, whose sales efforts for many years have been confined chiefly to territory included in the western oil fields, will represent Permite in Kansas, Missouri, Oklahoma, Arkansas, Louisiana and Texas. His home is in Tulsa, where he will have his headquarters at 308 Wright Building.

Fox, who has had 20 years experience in the sales field, will cover the territory along the Atlantic seaboard, including that portion of the country east of Pittsburgh and as far south as Virginia, including the states of New York, New Jersey, Delaware, the New England states and Virginia and West Virginia. Fox formerly was eastern manager for the Timken Detroit Axle Company, transportation representative for the Kendall Refining Company and special representative, in charge of the Philadelphia division, for Chrysler Fargo Motor Corporation. His headquarters will be in the office of Aluminum Industries, Inc., in New York City.

Crane Company Advances Burke and Pape

Announcement has been made of the appointment of Edmund Burke as manager of industrial sales for Crane Company, Chicago, effective November 1. In his new capacity, Mr. Burke will direct his activities toward further developing the industrial and construction markets for the use of valves, fittings and specialties.

Prior to 1910, when Mr. Burke entered the service of Crane Company, a good part of his engineering experience was in the construction and operation of mechanical, electric and hydraulic plants. As sales engineer for Crane Company he specialized in missionary and educational work among engineering and industrial organizations, until 1913 when he was made manager of sales of specialties. In 1921 he was given larger responsibilities and placed in charge of sales to the oil and gas industries. He held that position until his recent appointment.

W. HOWARD PAPE

EDMUND BURKE

W. Howard Pape, who succeeds Mr. Burke as manager of sales to the oil and gas industries, has been associated with this industry since 1914 in the capacity of designing, operating and sales engineer. He joined the Crane organization in 1927 as special representative in the New York and, later, the Boston territory. During the last six years he has been in charge of oil sales work in the Mid-Continent and Gulf Coast areas.

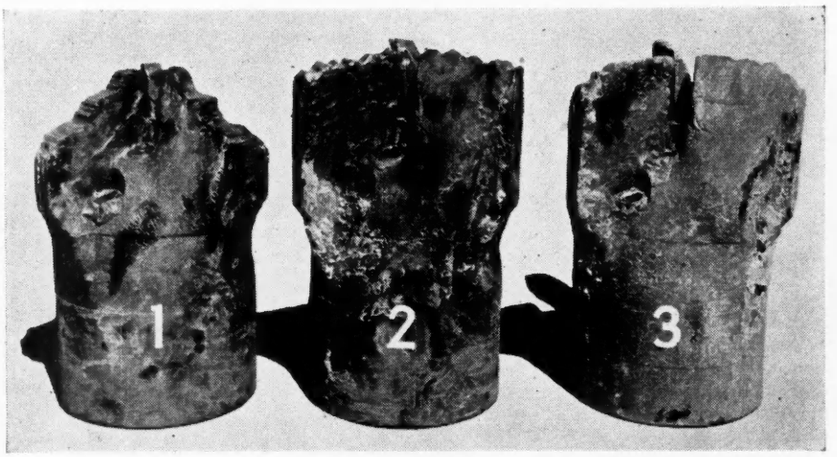
Changes in Lane-Wells Company Organization

Fred R. Shumack, formerly with Dabney-Johnston Oil Corporation, and previously with National Supply Company for 20 years, has joined the staff of The Lane-Wells Company at its Los Angeles office as purchasing agent.

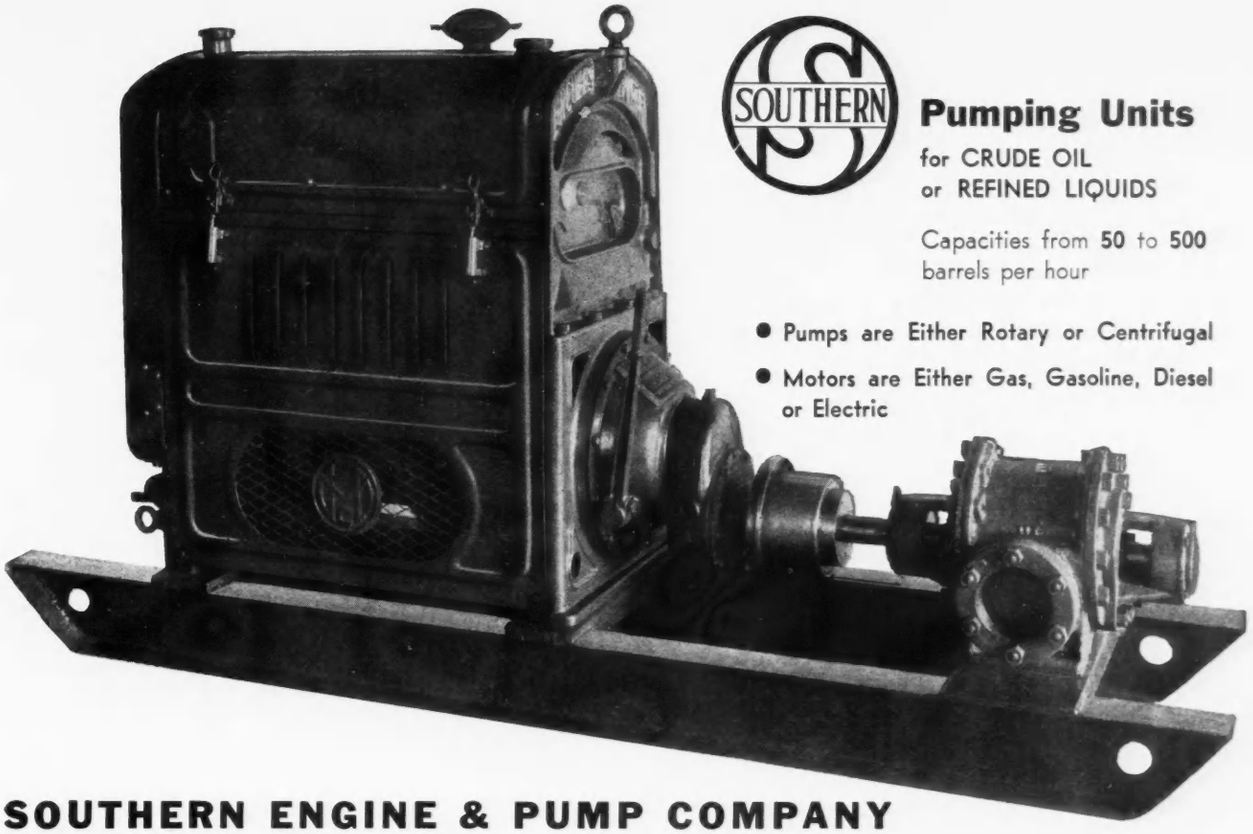
F. A. Taylor, former purchasing agent, has been transferred to The Lane-Wells sales department.

Remmel on Trip For Byron Jackson

S. F. Remmel, recently appointed assistant sales manager for the Oil Tool Division of Byron Jackson Company, is on an extended trip through the Mid-Continent, accompanied by C. F. Vincent, Mid-Continent manager for BJ, who is introducing Remmel in petroleum circles. Both will be in attendance in Los Angeles during the A.P.I. convention.



No reaming was necessary to set the casing when these three bits were used in drilling a 5494-foot well at Tomball. The first of these bits went in at 958 feet and completed 3009 feet in 60 hours. The second bit drilled from 3967 to 5107 feet in 33¼ hours. Bit No. 3 completed the well at 5494 feet in 9½ hours. All three bits were hard-set and hard-faced with Haystellite.



SOUTHERN

Pumping Units

for CRUDE OIL
or REFINED LIQUIDS

Capacities from **50** to **500** barrels per hour

- Pumps are Either Rotary or Centrifugal
- Motors are Either Gas, Gasoline, Diesel or Electric

SOUTHERN ENGINE & PUMP COMPANY
900-910 ST. CHARLES STREET HOUSTON, TEXAS

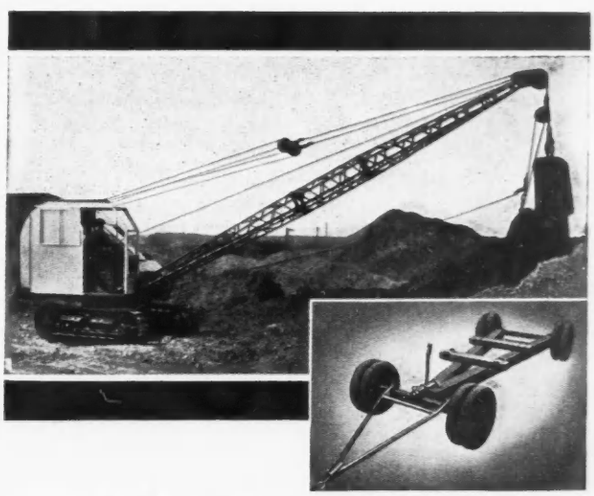
"GOING PLACES"...
in the SOUTHWEST OIL FIELDS!

YOUNGER BROTHERS
equip with P&H
BANTAM-WEIGHTS

Distances are long and working conditions are tough down in the southwest oil fields. That's why Younger Brothers of Houston, Texas, specialists in oil field hauling, material handling and dirt work, chose P&H Bantam-Weights. Their two P&H Model 150 Draglines are getting around fast — doing a big job where men haven't time to pamper machines.

Faster digging, faster travel, husky all-welded construction — these are some of the reasons why they're such outstanding performers. See one in action. Ask us to send you Bulletin 100-A.

HARNISCHFEGER CORPORATION
4532 W. National Ave. Milwaukee, Wisconsin
Offices in All Principal Cities
South Texas Distributors: R. B. Everett & Co., Houston



The P&H Bantam-Weight is fully convertible at the industry's lowest cost. (Inset) The new trailer unit gives you safe, fast travel with easier loading and unloading.

P&H BANTAM-WEIGHT EXCAVATORS

Squeaks from the Bull Wheel

Old But Clever

A real estate agent was offered sixty dollars, less two and a half percent discount for cash, for an option on a piece of property. Being a poor mathematician and wishing to conceal his ignorance of arithmetic from his customer, he excused himself for a minute and sought his new stenographer.

"Good morning, Miss Colgage," he said, with his most expansive smile. "Nice weather we're having ain't it? Now tell me, if I were to give you sixty dollars, less two and a half percent discount for cash, how much would you take off?"

Instead of figuring it out, the young lady promptly put on her hat and coat and went home, saying she had been insulted. Darned if we can see what there was to get insulted about. If she couldn't figure it out, why didn't she say so and let it go at that.

GOODALL ends trouble HERE

Here's the way to eliminate trouble and extra cost at the suction end of the slush pump: install Goodall Flang-Lok Pump Suction Hose. This hose is outstanding because there are no nipples built into or inserted in the ends, so that the entire connection is light in weight, flexible from end to end; there is no reduction in inside diameter, and no thread leaks — the Flang-Lok feature causes the capped end of the hose to form its own gasket. The split feature of the flanges expedites making and breaking connections when rigging-up or tearing-down. Goodall Flang-Lok Pump Suction Hose is an exclusive Goodall product. Write, wire or phone the nearest Goodall branch.

For Immediate Delivery From Warehouse Stock:
Size 8″ I. D., 5′ 8″ overall length
Size 10″ I. D., 5′ 8″ overall length

GOODALL RUBBER CO.

1606 Maury Street—HOUSTON—Telephone Capitol 0373

West Coast Distributors: MECHANICAL PRODUCTS CORPORATION
5162 4th Street, Los Angeles

HOSE, BELTING AND PACKING FOR EVERY PHASE OF THE OIL INDUSTRY

Meters

There are meters of accent,
There are meters of tone,
But the best way to meet her
Is to meet her alone.

There are letters of accent,
There are letters of tone,
But the best way to letter
Is to letter alone.

In Proper Season

Mr. MacTavish attended a christening where the hospitality of the host knew no bounds except the capacities of the guests. In the midst of the celebration Mr. MacTavish rose up and made the rounds of the company, bidding each person present a profound farewell.

"But Sandy, mon," objected the host, "ye're not going yet, with the evenin' just startin'!"

"Nay," said the prudent MacTavish, "I'm no' goin' yet. But I'm tellin' ye good night while I know ye."

Jine the Cavalry

"And you were in service during the war?"

"Yes, I was a pilot."

"Air service?"

"Nope, cavalry."

"Pilot, cavalry? What were your duties?"

"I used to pilot here and pilot there."

Popular

After a loud and prolonged exhortation the preacher called for testimonials. A devout young lady of color arose and shouted her story.

"Las' nite Ah was in de arms ob de debbil; an' tonite Ah is in de arms ob de Lord."

A hushed but excited voice from the back of the room interrupted her.

"Got a date fo' tomorrow nite, sister?"

Where Is Yours?

A colored parson was reading the Ten Commandments to his congregation, and when he came to the one that leads to Reno, a sporty brother in the congregation snapped his fingers and registered an air of satisfaction, then whispered to his neighbor: "Now Ah knows where Ah left mah umbrella."

The Joke Was on Them

One of T. R.'s standing favorites concerned some cowboys who, after catching a supposed horse thief, discovered to their dismay that they had caught and executed the wrong man. One among them who had a reputation for tact was selected to break the news to the victim's wife. "Are you the wife of Jack Smith?" the impromptu diplomat began. "Yes," the woman replied. "No, ye ain't neither; you're his widow," proceeded the tactful one. "I have his body out yonder in the wagon. We hung him for hoss lifting. But there's no need to feel bad about it. We found out after that he was not the guy we wus looking for. The joke is on us."

Mystery (in 1893)

A young man noticed a ravel on the shoulder of his dancing partner and pulled it. By the time he surrendered her to another partner he had a ball of string in his hand, and threw it in the corner. The next morning the young lady was telling her mother about the dance and said, "I had a perfectly wonderful time, but Mamma, I can't figure out what became of my union suit."

CHECK IN a BAKER Hydraulic Test Pump in the Field and— CHECK OUT Faulty Pipe and leaky Fittings!

HERE is a two-stage test pump that will give you care-free service. Yet, it is readily portable, easy and fast to operate. Gives you tests up to 6,000 pounds pressure per square inch, if you need it.

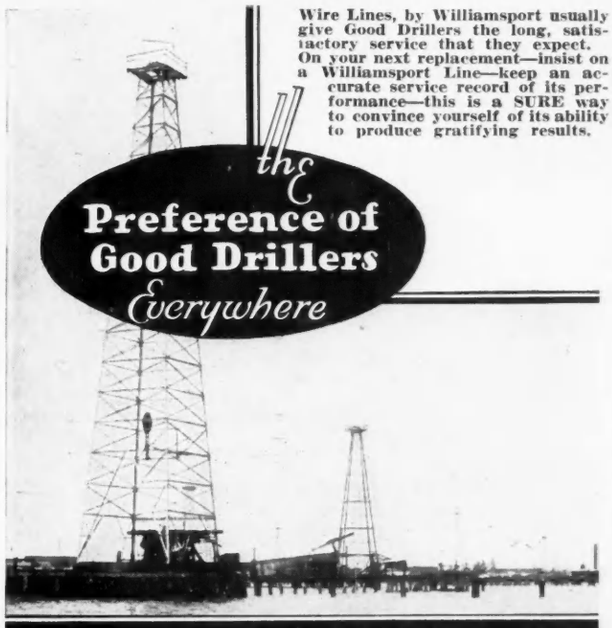
$75.00 *at your Supply Store*

Instantly changed from low to high pressure stage.

BAKER OIL TOOLS, INC.

POST OFFICE BOX 609, HUNTINGTON PARK, CALIFORNIA
COALINGA TAFT HOUSTON OKLAHOMA CITY TULSA NEW YORK

WILLIAMSPORT WIRE LINES

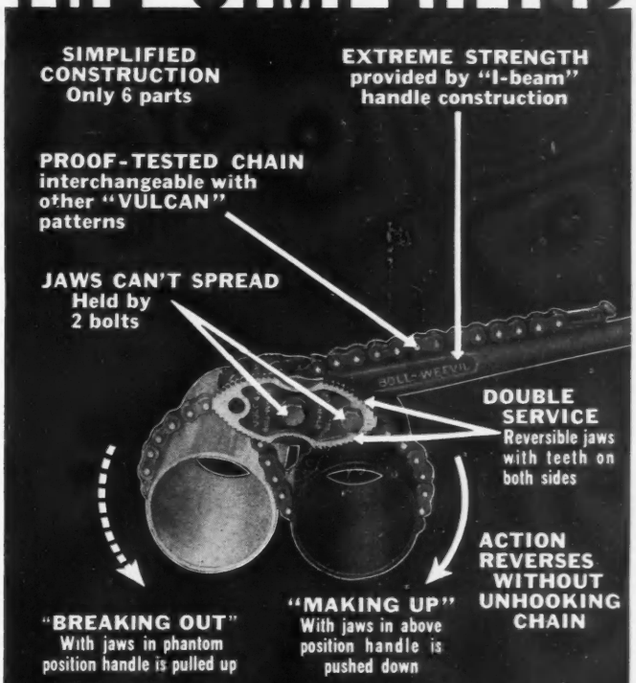


Wire Lines, by Williamsport usually give Good Drillers the long, satisfactory service that they expect. On your next replacement—insist on a Williamsport Line—keep an accurate service record of its performance—this is a SURE way to convince yourself of its ability to produce gratifying results.

WILLIAMSPORT WIRE ROPE CO.

Main Office and Works: Williamsport, Pa.
Branch Sales Offices: 122 S. Michigan Ave., Chicago, Ill.
Mid-Continent Supply Company
Distributors in Texas, Louisiana and Arkansas

THE SIMPLIFIED REVERSIBLE TONGS


SIMPLIFIED CONSTRUCTION Only 6 parts
EXTREME STRENGTH provided by "I-beam" handle construction
PROOF-TESTED CHAIN interchangeable with other "VULCAN" patterns
JAWS CAN'T SPREAD Held by 2 bolts
DOUBLE SERVICE Reversible jaws with teeth on both sides
ACTION REVERSES WITHOUT UNHOOKING CHAIN
"BREAKING OUT" With jaws in phantom position handle is pulled up
"MAKING UP" With jaws in above position handle is pushed down

Williams' "Vulcan Boll-Weevil" is a general purpose Tong with many unique advantages. On horizontal pipe work, for instance, the tong is laid ON TOP of the pipe and chain hooked around it. No tiresome holding up of heavy tongs—no lost time—no possibility of improper application. And its operator never changes his position, nor removes the tong, whether "making up", or "breaking out". Four sizes for pipe ¾" to 12". All fully guaranteed. Ask your distributor.

WILLIAMS' DROP-FORGED WRENCHES

Good balance . . . correct weight . . . abundant strength . . . these wrenches have been the standard of industry for more than half a century.
50 patterns
Over 1000 sizes.

J. H. WILLIAMS & CO.
"The Drop-Forging People"
75 SPRING STREET
NEW YORK

Western Warehouse and Sales Office: Chicago
Works: Buffalo, N. Y.

WILLIAMS
SUPERIOR DROP-FORGED TOOLS
VULCAN BOLL-WEEVIL REVERSIBLE TONGS

INDEX TO ADVERTISERS

A

Page

Abercrombie Pump Co. —
Alten's Foundry & Machine Co. —
Alvin Hotel —
American Askania Corporation —
American Association of Petroleum Geologists —
American Cable Co. 108
American Hoist & Derrick Co. —
American Iron & Machine Works —
American Lubricator Co. —
American Meter Co. —
American Petroleum Institute —
American Roller Bearing Co. 39
American Sand-Banum Co. —
American Seismograph Co. 107
American Steel & Wire Co. 41
Alexander Anderson 103
B. K. Appleman —
Armstrong Brothers Tool Co. —
Ash Grove Lime & Portland Cement Co. —
Athey Truss Wheel Co. —
Atlas Powder Co. —
Axelson Manufacturing Co. —
Axtel Co. 90

B

Baash-Ross Tool Co. 6
Baker Oil Tools, Inc. 3 and 113
Baldwin-Duckworth Chain Corp. —
Baroid Sales Co. 46
The Barrett Co. —
William M. Barret, Inc. —
Beaumont Iron Works 25
Black-Sivalls & Bryson —
Blackstone Hotel —
Bowen Air Lines —
Bradford Motor Works —
Brance-Krachy Co. —
Brauer Machine & Supply Co. —
The Brewster Co. 91
Bridgeport Machine Co. —
Broderick & Bascom Rope Co. —
Buck & Stoddard, Inc. —
E. D. Bullard Co. —
Byron Jackson Co. —

C

Cameron Iron Works —
The Cavins Co. 98
Chain Belt Co. 12
Chemical Process Co. —
Columbian Steel Tank Co. —
The Continental Supply Co. —
Fred E. Cooper Co. —
Cooper-Bessemer Corp. —
The Corbett Corp. —
Cotton Exchange and Board of Trade Building —
W. H. Curtin Co. 100

D

Darling Valve & Manufacturing Co. 49
The Dayton Rubber Manufacturing Co. —
Diamond Metal Co. —
Dowell Incorporated —

E

Eastman Oil Well Survey Co. of Texas —
Economy Electric Lantern Co. —
Elliott Core Drilling Co. 43
Emsco Derrick & Equipment Co. —

F

Geo. E. Failing Supply Co. —
First National Bank & Trust Co. —
The Edwin H. Fitler Co. —
Foote Bros. Gear & Machine Co. —
Fort Worth Laboratories 107
Fort Worth National Bank —
Frick-Reid Supply Corp. 35

G

Gardner-Denver Co. 75
The Garlock Packing Co. —
Gaso Pump & Burner Mfg. Co. —
Gas Power, Inc. —
Gearench Manufacturing Co. —
General Electric Co. —
L. H. Gilmer Co. —
Globe Oil Tools Co. —
Goodall Rubber Co. of Texas 112
B. F. Goodrich Rubber Co. —
Goodyear Tire & Rubber Co. —

Page

H. P. Gott Manufacturing Co. —
Grant Oil Tool Co. —
Gray-Kerotest —
Gray Tool Co. —
The Guiberson Corp. —
Gulf Envelope Co. 107
Gulf Publishing Co. 56
Gulf States Utilities Co. —
Gustin-Bacon Manufacturing Co. —

H

Halliburton Oil Well Cementing Co. Third Cover
Hamilton Brothers —
Hardway & Cathey 107
Harnischfeger Sales Corp. 111
Haynes Stellite Co. 4
Hazard Wire Rope Co. —
C. M. Heeter Sons Co. —
Hercules Motors Corp. —
E. E. Hess —
Hewitt Rubber Corp. 29
Hoard Exploration Co. 107
Hollywood Plaza Hotel —
Houston Ready-Cut House Co. —
Hughes Tool Co. Front Cover
Humble Oil & Refining Co. —
Hyatt Roller Bearing Co. 65
Hydril Co. Fourth Cover

I

Independent Exploration Co. 107
Independent Pipe & Supply Co. —
Ingersoll-Rand Co. 54-55
International Cement Corp. —
International Derrick & Equipment Co. —
International Harvester Co. 47
The International Nickel Co. —
International Petroleum Exposition —

J

Byron Jackson Co. —
Jarecki Manufacturing Co. —
The Jeffrey Manufacturing Co. —
Jensen Brothers Manufacturing Co. —
J. L. Johnston Well Testing Service —
S. M. Jones Co. —
Jones & Laughlin Steel Corp. —

K

Kerotest Manufacturing Co. —
Kibele Manufacturing Co. —
Kobe, Inc. —

L

Landis Machine Co. —
Larkin Packer Co. —
The Lane Wells Co. 11
Layne & Bowler Co. —
Lenox Hotel —
M. J. Lewis Oil Well Service —
The Lincoln Electric Co. —
Link Belt Co. —
Neal Lucey Co. 107
Ludlow Valve Manufacturing Co. 96
Lufkin Foundry & Machine Co. —

M

M. & V. Tank Co. —
MacClatchie Manufacturing Co. —
Maintenance Engineering Corp. 72
D. S. Mair Machinery Corp. 107
Maloney Tank Manufacturing Co. —
Martin-Decker Corp. —
F. G. Masquelette & Co. 95
E. M. Mayfield —
J. H. McEvoy & Co. —
McIntosh & Seymour Corp. 45
Geo. S. Mepham Corp. 61
Merco Nordstrom Valve Co. Second Cover
Miller Sand Pump Co. —
Mission Mfg. Co. Insert Between 50-51
Lee C. Moore & Co. —
Muskogee Iron Works —

N

The National Supply Co. —
National Tube Co. —
Naylor Pipe Co. —
New Deal Specialty Co. 95
Norvell-Wilder Supply Co. 15

O

Page

Walter O'Bannon Co. —
Oil Center Tool Co. —
Oil City Brass Works —
Oil Equipment & Engineering Exposition 53
Oil Well Supply Co. —
Oklahoma Biltmore Hotel —
Osage Metal Co. —
Oster-Williams —

P

The Parkersburg Rig & Reel Co. —
Parks Engineering Service —
Patterson-Ballagh Corp. 92
Pelican Well Tool & Supply Co. 105
Petroleum Electric Power Club 74
Petroleum Rectifying Co. 17
Piccadilly Hotel —
The Pierce Governor Co. —
Pittsburgh Equitable Meter Co. —
Pittsburgh Steel Co. —
Plaza Hotel —

R

J. P. Ratigan Co. —
Raybestos-Manhattan, Inc. —
Reading Iron Co. —
Rector Well Equipment Co. —
Reed Roller Bit Co. 26-27
Republic Portland Cement Co. —
The Republic Steel Corp. —
The Republic Rubber Co. 23
Norman H. Ricker 107
The Ridge Tool Co. 30
Dewey T. Ross, Inc. —
Walter Ruska & Co. —

S

Scandinavia Belting Co. —
J. A. Schley 107
Schlumberger Well Surveying Corp. —
Seismic Explorations, Inc. —
J. E. Shaffer Co. —
Shaffer Specialty Co. —
Shaffer Tool Works —
Shand & Jurs Co. —
Shell 66
Sinclair Refining Co. 63
SKF Industries, Inc. —
A. O. Smith Corp. 36-37
E. M. Smith Co. 94
Nowery J. Smith Supply Co. —
South Chester Tube Co. —
Southern Engine & Pump Co. 111
Southern Pacific Lines —
Southern States Co. 72
Sperry-Sun Well Surveying Co. —
Star Drilling Machine Co. —
Stone Oil Tool Co. —
Superior Gas Engine Co. —

T

Templeton, Kenly & Co. —
Texas Iron Works —
Texas & Pacific Railway —
Thermoid Rubber Co. —
Timken Roller Bearing Co. —
Tretolite Co. —
Trimont Manufacturing Co. 108
Thornhill-Carver Co. —
Twin Disc Clutch Co. —

U

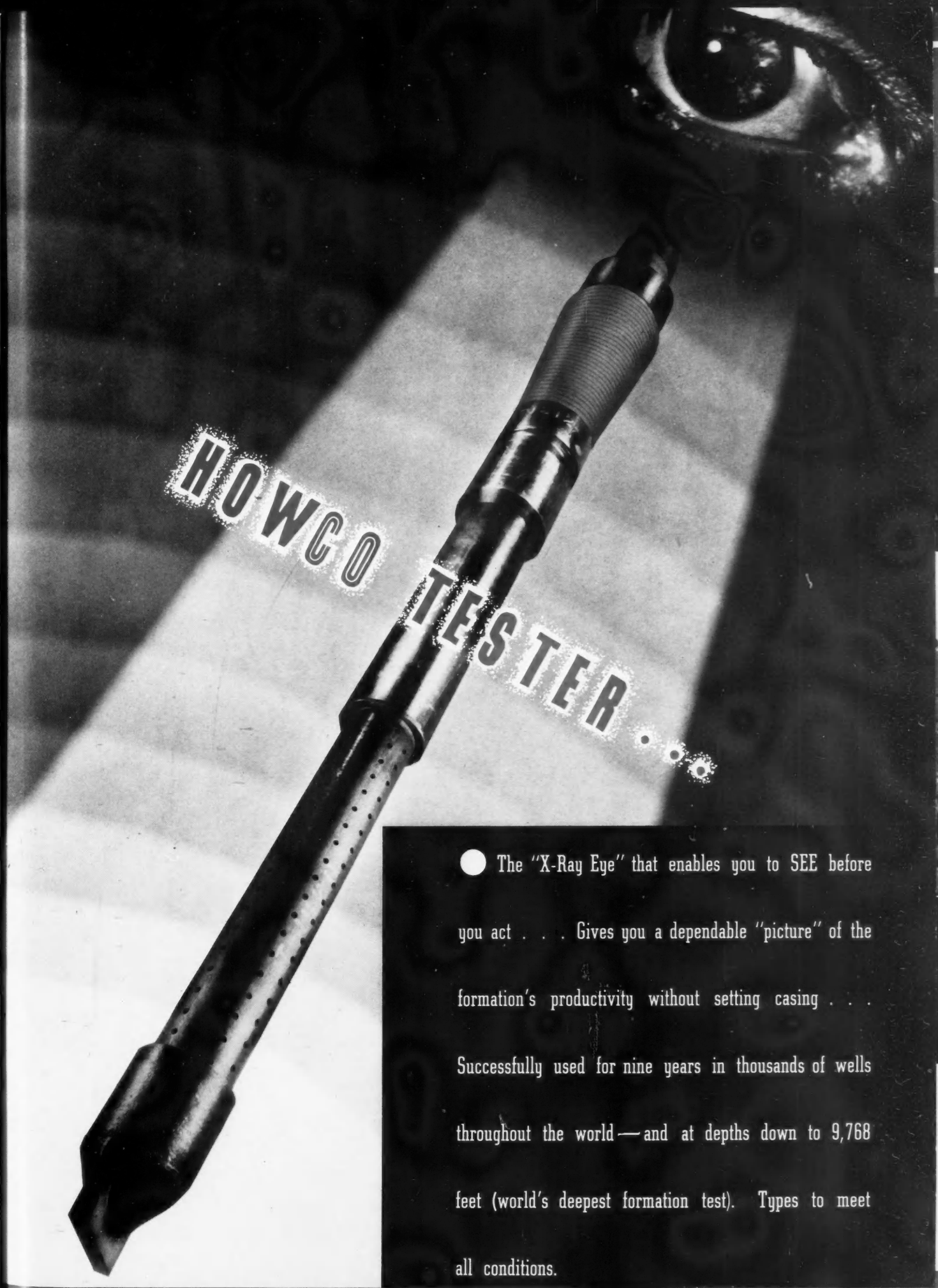
Union Carbide & Carbon Corp. —
Union Wire Rope Co. —
United States Rubber Products, Inc. —
U. S. Tool Corp. —

W

Waukesha Motor Co. —
Westinghouse Electric & Manufacturing Co. 88
The Wheland Co. 59
Wickwire-Spencer Steel Co. 79
Williams Brothers, Inc. —
C. K. Williams & Co. —
J. H. Williams & Co. 113
Williamsport Wire Rope Co. 113
Wilson-Snyder Manufacturing Co. —
Wilson Supply Co. 77
George Woods Agency —
Wyatt Metal & Boiler Works —
WKM Co. —

Y

Youngstown Sheet & Tube Co. —



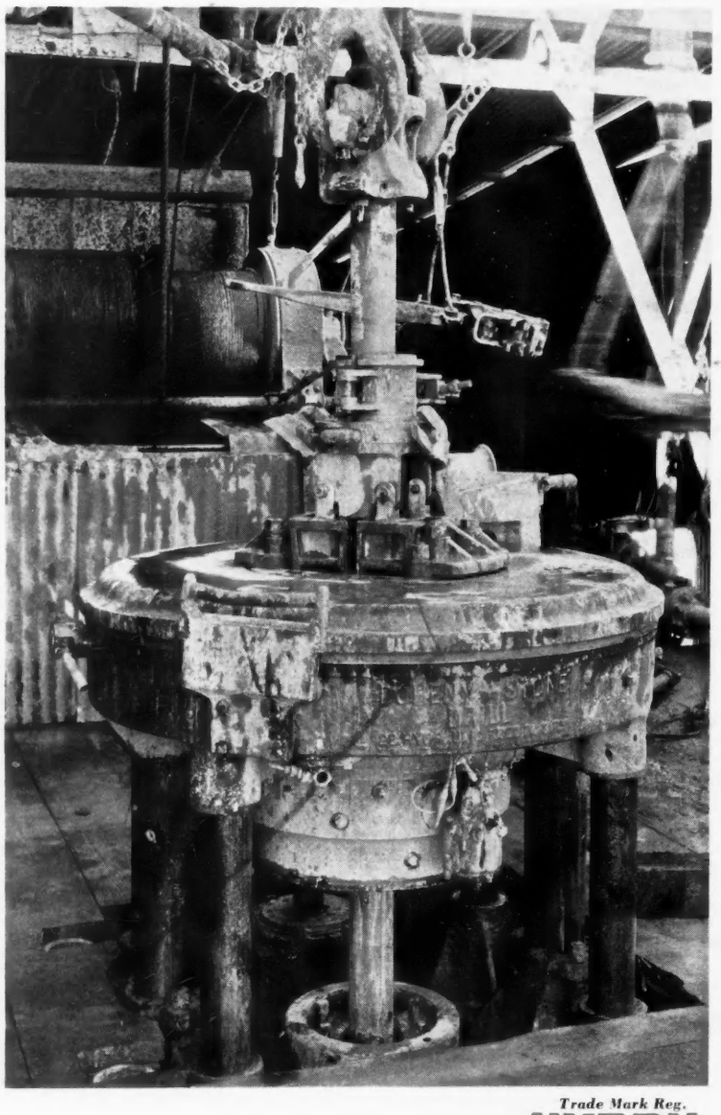
● The "X-Ray Eye" that enables you to SEE before you act . . . Gives you a dependable "picture" of the formation's productivity without setting casing . . . Successfully used for nine years in thousands of wells throughout the world — and at depths down to 9,768 feet (world's deepest formation test). Types to meet all conditions.

ALLIBURTON OIL WELL CEMENTING CO., DUNCAN, OKLA.

HYDRIL

Controlled Pressure DRILLING EQUIPMENT

PREVENTS BLOWOUTS . . . PROTECTS LOW PRESSURE OIL FORMATIONS . . . ASSURES SAFETY, SPEED AND ECONOMY IN DRILLING



At the time this picture was taken the well, located in a high-pressure field, was being cemented through the drill pipe under a pressure of 3000 pounds per square inch. The Hydril equipment used to drill the well, consisting of the Rotary, 4½-inch Internal Flush Joint Drill Pipe, Automatic Slips and Combination Drilling Packer and Blowout Preventer, was used in the cementing operation without the aid of any extra or special equipment. Note particularly how the automatic slips are holding the drill pipe and the total absence of any leakage past the packer even under this pressure.

In any area where extreme pressures, heaving and caving formations or excessive water flow make exploration with ordinary drilling methods difficult or impossible, use Hydril Controlled Pressure Drilling Equipment. Also, through its use the weight of the column of drilling fluid in wells of subnormal or abnormal pressures can be reduced in order that they may produce oil while being drilled, thus insuring that the sands will not be injured or closed off through penetration by water or mud.

HYDRIL COMPANY
714 West Tenth Street • Los Angeles, Calif.
DOHENY STONE DRILL CO.
OF TEXAS
4300 Calhoun Road • Houston, Texas

Trade Mark Reg.
HYDRIL

Let us send you a description of how Hydril Controlled Pressure Drilling Equipment is installed and operated. See the Hydril Section beginning on Page 471 of your 1935 Composite Catalog.